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AUDIO MEDIA

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Clash of the Titans

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Driving VRT

Live
Muse on Stage

Technology
SSL X-Patch

Product Sampler
Console Special!

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WORLDWIDE EDITION
ISSUE 234 • MAY 2010 • UK £3.80

AKG C414 • Abbey Road RS124 • SPL DrumXchanger • Shadow Hills Equinox • Driving VRT • Show Time?: The Decline Of The Audio Show • Studio Snapshot: Funky Junk's Room Of Its Own, Snap! • GeoFocus: Benelux • Special Report: Avidly Euphonix • What's Up UK: 3D Technicolor • Cut Scene: The Adam Levenson Interview • Video Guide: Grading Part 4 • Recording News • Broadcast News • Post News • AMSR News • . . .And More!

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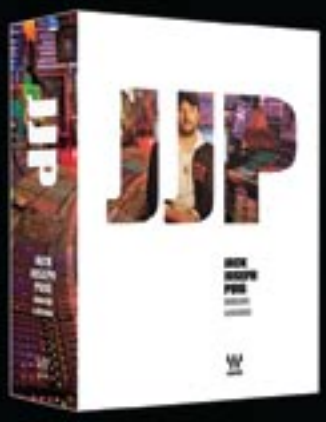

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(Native)

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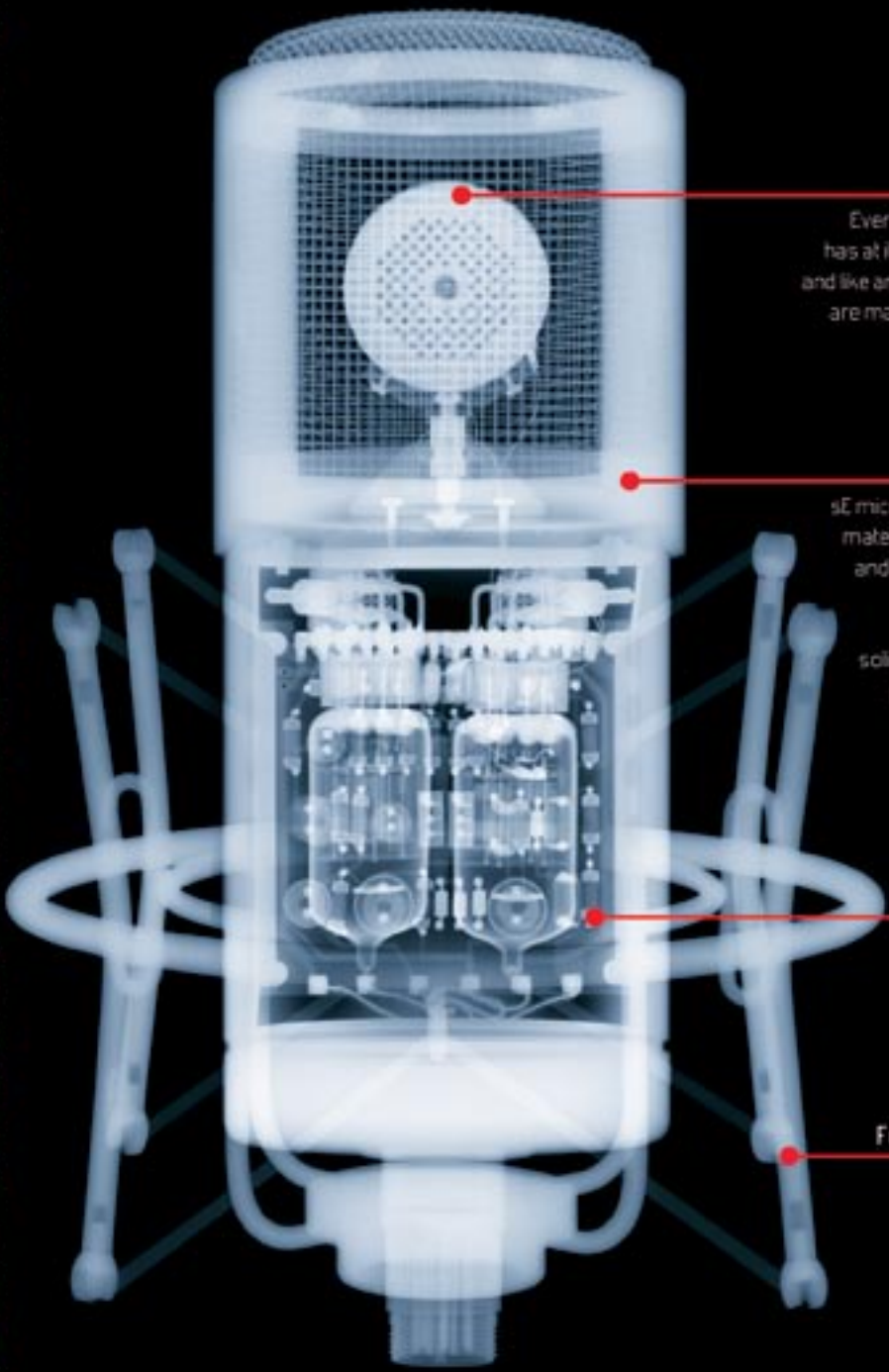

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leader

It's obvious when you think about it, but control is almost everything, and the *means* of control makes up the rest. From the steering wheel to the fader – most things we interact with on a daily basis have settled on standard means of control. And many of those, particularly the ones I just mentioned, originally came into being due to mechanical necessity.

Turning a pinion gear, for example, is an excellently simple way of moving a steering rack; and a steering wheel is a very direct way of turning that gear – with the happy coincidence that left and right tally nicely. Sometimes I think it's a shame that the piece-of-rope option is only considered practical for go-karts and horses… But sometimes I don't.

The fader also is a beautifully direct method of doing something practical – continuously changing the effective length of a piece of wire. And the same goes for the humble knob. Of course, neither of these are strictly necessary on much of the equipment we use these days, and viewed from a certain angle it's downright odd that we seek to emulate these control methods on a computer screen. Strangely, attempts to improve on the age-old norms of control often fail. This isn't because they aren't better – some of them have made complete sense. It's mostly because we don't like change. I can't be the only one who often finds turning a knob using a mouse incredibly frustrating, yet that is still over-ridden by the creative comfort in seeing the front panel of a rack unit, or a row of faders, magically floating inside a flat screen – regardless of how absurd it really is. But until we can overcome this neurological attachment to the mechanical, we're probably stuck with knobs, faders, and buttons.

One trend in control that does seem to be catching on though is cutting out the middle man. Why go to a peripheral when you can go straight to the screen? Touch control is the closest computers get to direct control of a function. Studer and Soundcraft's brilliant Vistonic interfaces come to mind, but surely the new popular icon of this kind of control is the iPod/iPhone and iPad? Many of us will already be eyeing up, or already using these for some kind of interaction with professional software, and manufacturers are falling over themselves to implement 'i'.

What about mixing Avid's stated commitment to technological openness, its purchase of Euphonix (and therefore EuCon), and the iPad control advantage into one vision of your next DAW controller? It may, though, require that openness to reach third-party controller hardware, rather than just other DAWs. See page 20 for details…

Lastly, the Audio Media team – and a few others in the industry – will be at AES in London shortly after you receive this magazine. Hopefully we'll see you there.

Paul Mac, *Editor*

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*Within Broadcast & Production

NEW STUDIO

A new studio has opened in North London with a combination of classic and modern gear. SNAP Studios has a vintage Neve recording console, a Fairchild 670, Urei 1176's, Teletronix LA2A, Pultec tube EQ, and a range of vintage analogue synths. The studio also has more than 80 vintage and modern microphones, an SSL AWS900+ automated console, and Pro Tools hard disc with Prism ADA8 converters. The live room features a Bosendorfer grand piano, Hammond C3, Pearl Vibes, and a selection of vintage Fender and Ampeg backline. (More on p.18)
www.snapstudios.co.uk

NEW FACILITY

Sydney-based Dubology Studios has unveiled the DubMobile, a mobile facility featuring a 128-channel DiGiCo DS-00 digital console with two EX-00 fader expansion modules, DiGiRack and MiNi-DiGiRack, with up to 288 tracks of multi-track recording on to Pro Tools HD, Steinberg Nuendo, and MOTU Digital Performer. The facility was developed in conjunction with Sony Australia, and is contained in a vehicle 5.8 metres long x 2.8 metres high. "We chose the DS-00 for its power and performance to handle complicated audio situations," said Dubology owner Ivan Ordenes.
www.digico.biz

Avid Acquires Euphonix

Avid has announced that it has acquired digital audio console and recording equipment manufacturer Euphonix.
Avid plans to continue to support and sell both Euphonix control surfaces and Avid's existing ICON solution, as well as developing an open standard protocol that will expand compatibility between the Euphonix control surfaces and a wide range of Avid and third-party audio and video applications, including Media Composer and Pro Tools.

"This acquisition greatly expands our portfolio to offer customers a complementary set of workflow solutions – from independent producers creating music in their home studios to broadcasters preparing segments for national broadcast," said Gary Greenfield, Avid Chairman and CEO. "We remain committed to driving interoperability and modularity across a vast ecosystem of Avid and third-party creative hardware and software solutions. And, as audio and video workflows continue to converge, we are now well positioned to deliver control surfaces that work across both audio and video applications, making the content creation process more cost-effective and efficient for our customers."

(More on page 20)
www.avid.com

Monitoring By PMC

PMC is launching a new active monitor at AES London, the IB2S-XBD-A. Similar to the BB5 XBD-A, the monitor is aimed at high-end reference monitoring and mastering applications.
Each monitor consists of two DSP-controlled, Class-D powered cabinets fitted with PMC's Advanced Transmission Line technology; a three-way master, and a slave XBD cabinet with an extra bass driver. Each channel employs two of the 10-inch piston bass drivers from the IB1S and IB2S speakers, together with a hand-built 75mm mid-range fabric-dome driver and the 34mm soft-dome tweeter from the BB5 XBD-A. Each active master cabinet offers 960W of power – 200W each from the HF and mid-range drivers, and 560W from the LF driver – while the slave XBD cabinets contribute a further 560W, giving 1520W per channel of low-distortion monitoring down to below 20Hz.

www.pmc-speakers.com

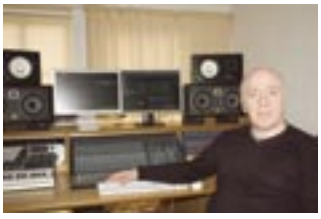
NEW PRODUCT

Modern Beats has released Pop Rhythmz Drum Loops 1, a drum loop library organised into two popular pop top-40 radio tempos: 125bpm and 130 bpm. Each tempo group contains 10 multi-track drum loop themes with three variations per theme – main drum beat, drum break 1, and drum break 2. All drum loops mix-match seamlessly.
www.modernbeats.com

NEW INSTALL

Producer and Engineer James Loughrey has installed a Solid State Logic X-Desk SuperAnalogue mixer and X-Rack modular rack system in his home studio. Loughrey, who has worked with artists such as Page and Plant, Björk, and Depeche Mode, has used the equipment on a number of projects, including the film Lives Of The Artist.
www.solidstatelogic.com

NEW INSTALL



Nigel Pulsford, founder of rock band Bush, has recently installed a Zen Audient console as part of a full studio upgrade. "The Zen seemed to provide all I needed," said Pulsford. "I particularly liked the fact that it was British made which meant any problems could be resolved quickly and also that it was very flexible."
www.audient.co.uk

WORLD CUP

The FIFA World Cup themes have been recorded by composer Yalil Guerra, using Mojave Audio's

MA-200 tube condenser microphone. Describing the project, Guerra said: "This composition has some really great brass composition/arranging and choruses that repeat a series of melodic and beautiful chants. The MA-200 did a wonderful job of capturing these performances."

www.mojaveaudio.com

NEW PRODUCT

Native Instruments has introduced Paranormal Spectrums, a new KORE-powered instrument that creates mysterious and unsettling sonic atmospheres.

Based on atmospheric field recordings, unusual sampled sounds and intricate synthesiser programming, it offers a wide assortment of evocative pads and sinister soundscapes for use in suspenseful horror, thriller, and mystery film and game scores.

www.native-instruments.com

Earthworks has released the SR40 high definition 40kHz cardioid microphone. It has a near-perfect polar pattern, allowing vocals or instruments at the sides of the microphone to have the same quality as those in front. It allows the use of fewer microphones with closer placement to the source, obtaining more gain before feedback in live sound applications.

www.earthworksaudio.com

PRODUCT SHIPPING

TC Electronics has announced that it is shipping the System 6000 MKII. The new version has upgraded software and hardware, and can now be controlled and updated over a network or via wi-fi. The launch also sees the release of version 5.00 software, which will run on older models as well as the MKII units.

www.tcelectronic.com

Take A SIPP From D.A.V.

D.A.V Electronics has released the D.A.V SIPP. The SIPP allows an engineer to use outboard processors in parallel, by allowing any desired mix of wet and dry paths using a continuously variable blend control. The source is fed to a single output and then split into two, with the dry path representing the original source which can then be blended with the wet path which consists of the same source routed to a balanced insert point. The user can connect any piece of outboard to the wet path to achieve a variety of effects.

Digital Audio Workstations allow users to route signals out via DA and AD converters and mix the returning audio with the original, and many also compensate for the conversion delays induced in doing so. But the process can be subject to 'inter-sample delays' whereby the returning audio is subject to delays which are less than the value that can be represented by a single sample. Engineers have traditionally avoided this problem by sending a 'dry' signal out of a second converter pair and returning it alongside the processed one. The SIPP avoids this problem by doing the splitting and subsequent summing in the analogue domain.

The SIPP's ability to split a signal can also allow it to be used to feed an equalised signal to a compressor's sidechain. It can also be used as a pair of two to one line mixers by using the standard inputs and insert return points as inputs. The blend controls the adjustment of the relative balances between the sources. The SIPP can also be used as a high quality stepped attenuator.

www.kmraudio.com

Perform Under A Cloud

Cloud Microphones has launched a family of new handcrafted ribbon microphones designed and manufactured in the style of the broadcast microphones of the 30s, 40s, and 50s.

In the 1930s, Harry Olson developed the 44 and 77 series ribbon microphones at RCA. Olson was succeeded by engineer Jon R. Sank, who was given the task of improving upon Olson's best microphones, and came up with the BK-11. Jon Sank trained his son Stephen, who, with his wife Cynthia, has spent the last two decades servicing and restoring vintage ribbon microphones. In 2006, recording artist RJ Cloud was working in a studio in Tuscon when the Sanks moved in next door. Stephen Sank loaned Cloud a vintage RCA ribbon microphone. He loved the sound – "it reminded me of vintage alalogue recordings, full or richness and depth, but with the clarity of digital," said Cloud. He was so impressed that he collaborated with Sank to develop a modern ribbon microphone. Cloud contracted with a Tuscon-based fabrication firm called Aerofab – a company commited to building products using environmentally responsible techniques – to build a prototype, and it now constructs all parts for what became the Cloud JRS-34 line.

www.unityaudio.co.uk

NEW PRODUCT

Abbey Road Studios has released the RS124 Compressor plug-in, which emulates the sonic characteristics found in Abbey Road's original RS124 hardware units. The valve compressors were introduced in 1960 and were in constant use at the studios throughout the decade. The three units emulated are still in use at the studios today. The RS124 Compressor plug-in was modelled using the original hardware under the guidance of Abbey Road's Director of Engineering, Peter Cobbin. (More on page 26)

www.abbeyroadplugins.com

NEW PRODUCT

Waves Audio has unveiled the Jack Joseph Puig Artist Signature Collection, developed in association with the Grammy-winning producer and mixer as part of an ongoing working relationship. The tools are created from his custom processing chains. Included are six application-specific plug-ins with dedicated tools for bass, drums, cymbals and percussion instruments, guitars, stringed instruments and keyboards, and vocals.

www.waves.com

ERRATA

In the grand tradition of two coming along at once, we have a couple of corrections to flag up from last month's issue. First, in a clear case of being stalked by a typo we mistakenly called the Allen & Heath iLive-R72 a T72 – in several places. Apologies for that. Second, the picture in our Frankfurt report that went with the ADAM AX series launch was, in fact, an S1X. Again... sorry.

NEW PERSONNEL

Soho-based audio post house Hackenbacker has announced that Chris Sturmer from Dolby UK will be joining the company at a senior level. "The team and myself are delighted to welcome Chris on board," said founder and MD Nigel Heath. "Our clients are special to us, and amongst other things Chris will be responsible for helping us to develop and tune certain areas within the company in order to ensure that they have an even better experience when working with us."
www.hackenbacker.com

NEW USER

Jünger Audio has supplied three B41 SDL audio limiters to the US division of IFE Services, a company that primarily provides content to the airline entertainment industry. IFE Services has a fully equipped broadcast standard television studio with filming and production facilities at its Knutsford, UK headquarters. In 2007, the company opened its US division in Lake Forest, California, where it offers post production facilities for screening, editing, and encoding audio and video content for on-board presentation via a variety of in-flight entertainment systems.
www.junger-audio.com

Focus On The Story Of Us

Prime Focus has teamed up with TV production company Nutopia and the History Channel to do post production work on an epic 12-part series called *America: The Story of Us*, an overview of the history of America from the pilgrims to President Obama.

Post-production work was completed at Prime Focus using their facilities in New York and London. Elements of the post process were managed through the use of CLEAR, the proprietary content and workflow management platform from Prime Focus, which was used to simplify communication and send information and content between London and New York. CLEAR also came into use when volcanic ash closed European airspace, as two episodes were sent electronically across the Atlantic to be delivered to the History Channel.

Phitz Hearne and Rada Danilovic were responsible for the audio work. "There was a lot of sound design required for the dramatic reconstructions," said Hearne. "So we sourced a lot of sound effects that are of the time, such as British canons and muskets for the battle scenes."

www.primefocusworld.com

NEW USER

Taking Steps To SSL

Steps Music, part of a 4,000-square-foot shared studio complex in Oslo, Norway, has installed a Solid State Logic AWS 900+ SE console with two Alpha-Link audio converter units. Steps Music uses the console for music productions and post production for film and television. "The AWS 900+ SE was the perfect choice to enhance the continued success of Steps Music," said Atle Rovik, owner of Steps Music.

"While I had a controller and a Nuendo system with some outboard gear, I really needed to look at buying banks of outboard mic amps and EQs to meet the needs of the clients I was attracting. The AWS was a very nice way for me to upgrade my studio with great mic amps and equalisers. My clients are very happy with this choice."
www.solidstatelogic.com

NEW PRODUCT

Minnetonka Audio Software has released the LTRT WavFileAnalyzer, a software product that provides automated content verification for stored media files. LTRT WavFileAnalyzer performs conformance and quality analysis as well as a range of customised checks for Dolby E to analyse the audio content. It also checks the audio file header chunks, SMPTE 337M, and peaks for each input file.
www.minnetonkaaudio.com

FACILITY UPGRADE

MediaPros recently supplied and installed six new Pro Tools HD Accel systems to the Pinewood Studios Group, making the combined Pro Tools facilities owned by the group at Pinewood and Shepperton Studios the largest installation of its kind in Europe. The new systems have been installed in Shepperton's Orson Welles complex, which specialises in foreign versioning for major film companies.
www.avid.com

FACILITY UPGRADE

740 Sound Design, a Los Angeles-based company that specialises in feature film quality sound design for commercials, has relocated to a new studio facility designed by nonzero/ architecture's media facilities division studio bau:ton. The facility includes an audio post production facility, with mix rooms providing 5.1 mixing with Pro Tools systems.
www.740sounddesign.com

NEW USER

Dave Isaac, Producer and Mix Engineer for bass legend Marcus Miller, has mastered Miller's latest album using PMC AML1 monitors. Isaac, Miller's long-time collaborator, borrowed the AML1s to complete the project after hearing a demonstration, and has now ordered a pair of PMC's new AML2s for his studio.
www.pmc-speakers.com

”Never in the history of loudspeaker design have the benefits of a coaxial driver been so seamlessly combined with directivity control elements. The result is a true breakthrough in audio monitoring.”

Jussi Väisänen, the Lead Acoustic Designer behind our 8260A Three-Way DSP Monitoring System.

THREE WAY REVOLUTION. WWW.GENELEC.COM/8260A

NEW PARTNERSHIP

Optocore has announced a technical co-operation with Solid State Logic. With the SSL MADI I/O control protocol now integrated into Optocore's topology, the C10 HD and C100 HDS consoles will now be able to transmit and receive up to 128 audio I/O channels over an Optocore Optical Digital Network System. Users will also have the ability to remotely control the microphone preamplifiers in the 48-input Optocore LX4AP stage box as well as all the parameters of the X6 and X6R 16-channel converters.

www.optocore.com

NEW PRODUCT

Sonifex has released a new range of freestanding and 1U rack-mount reference monitor meters, offering accurate high resolution metering of between one and four stereo audio sources. Each stereo source is auto-switching between either analogue or digital AES/EBU format with sample rates up to 192kHz accepted. The level of each stereo source is displayed on a pair of bright, multi-coloured bargraph meters, with a choice of scales and responses to suit different applications and preferences. There are eight new meters in total.

www.sonifex.co.uk

NEW PARTNERSHIP

Awards Under Control

The loudness metering, control, and surround sound for the broadcast of two high-profile awards shows has been provided by Linear Acoustic's AERO.qc Audio Quality Controller. The Aero.qc controlled the audio as it passed through the broadcast truck on the way to transmission for both the GRAMMY and Golden Globe Awards. On the Golden Globes, the AERO.qc helped with the 5.1 audio processing, while for the GRAMMYs it was used to help develop the surround bed for the broadcast.

Linear Acoustic has also just announced a technology partnership with Digital Nirvana, a leading provider of compliance monitoring and logging solutions. The new partnership will allow the LQ-1000 Loudness Quality Monitor to connect with the Digital Nirvana MonitorIQ Broadcast Monitoring System, and send real-time ITU-standard loudness data on a continuous basis for logging and mapping of data with the broadcast content video by MonitorIQ.

www.linearacoustic.com

NEW PRODUCT

Routers En Route

Axia Audio is now shipping its X1, X2, and XY router control panels, new additions to Axia's line-up of rack- and turret-mounted control panels and console drop-in modules. The X1 Router Control panel lets operators instantly route any source on their Axia Livewire network to a specified destination. Users can quickly scroll through available channels on the high-visibility display, then press the 'Take' key to make an immediate rout change.

The X2 Router Control panel provides the routing functionality of two X1 panels in a single chassis; each separate control routes any available network source to an individually specified destination. The panel connects to the network via a single Ethernet connection.

The XY Router Control panel lets operators route any source to any destination within the Livewire network.

www.AxiaAudio.com

NEW PRODUCT

Telos has launched the Nx6 Talkshow System, packaged with the Telos Desktop Director and Telos Assistant Producer call-screening software. The Nx6 is a smaller version of the 12-line Nx12, but like that also has four adaptive digital hybrids inside a 2RU chassis. Nx6 can handle up to six phone lines, either analogue (POTS) or digital (ISDN BRI).

www.telos-systems.com

NEW INSTALL

The Weather Channel, the US television network dedicated to weather-related programming, has installed an RTW SurroundControl 31960SD surround sound monitoring controller. The ITU BS.1770/1771-compliant device features a Dolby E and Dolby AC-3 decoder, so can support analysis of Dolby 5.1 surround sound. It has and HD- and SD-capable SDI de-embedded interface, as well as analogue and digital audio inputs and outputs.

www.rtw.de

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Deadmau5 logical choice of interface

When Deadmau5 went looking for a high quality I/O solution, it became apparent that there was only one choice.

Orpheus provides Prism Sound's world renowned performance, sound quality and state-of-the-art clock technology in a dedicated FireWire unit compatible with both Windows and MAC OS X.

Orpheus features line, microphone and instrument inputs, selectable RIAA Equalization for turntables, a built-in premium-quality monitoring mixer and concurrent ADAT and switchable S/PDIF or AES3 digital I/O plus support for outboard MIDI devices. The Microphone inputs include MS matrix processing and dual headphone outputs are provided each with their own volume control.

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NEW PRODUCT

Swiss contact microphone manufacturer Schertler has released the D-DYN-BANJO, a microphone for banjo. The electro-dynamic transducer has been specially developed to give a natural and reliable reproduction of the instruments sound characteristics. The D-DYN-BANJO is fitted with an XLR connector and is unobtrusive when attached to the instrument. The current model is intended for use on banjos with a resonator, however a version for open-backed instruments will be available soon.
www.schertler.com

PRODUCT SHIPPING

Waves Audio is now shipping the WSG-Y16 mini-YGDAI SoundGrid I/O card for Yamaha mixing consoles. The card widens the sonic capabilities of the console, allowing live engineers to more accurately duplicate the sounds of studio recordings.
The card also offers a wide variety of vintage outboard signal processing. The WSG-Y16 supports MIDI input, for remote plug-in control directly from the console or external control surface.
www.waves.com

NEW INSTALL

The Butterworth Hall, which forms the major component of the multi-venue Warwick Arts Centre, has been fitted with a Soundcraft Si3 64-input digital desk as part of its redevelopment. The Si3 will sit in the control room above the retractable bleacher seating. "Sound engineers like the individual screens on each module, which is a plus point," said Technical Director Howard Potts. "As for the onboard FX you are getting industry standard names like Lexicon, BSS, and dbx."
www.soundcraft.com

Powersoft Give Us An M

Powersoft has introduced a new range of power amplifiers. The M Series consists of five new models that include two four-channel and three two-channel versions. The amplifiers come in a one rack unit chassis, 14.1-inch in depth, and weigh just over 16lbs.

The M50Q and M28Q are four-channel models, delivering up to 1250W per channel into 4Ω. The M30D, M20D, and M14D offer two channels each with a maximum output of 1500W per channel at 4Ω The entire range reaches down to 360W per channel into 8Ω. The M Series features Powersoft's advanced plug-in DSP module. When installed and preset to meet the needs of a particular installation including settings for crossover frequency and curves, basic system EQ and protection functions, the parameters cannot be tampered with. "Because of our advanced engineering and design, we will be able to offer M Series amplifiers at a very attractive price without compromising the sound quality and features," states Claudio Lastrucci, Powersoft's Managing Director. "Even for dry hire, M Series is safe with the DSP 'hidden' inside," said Claudio Lastrucci, Powersoft's Managing Director. "Clubs, bars and other entertainment venues often have to pay extra for their systems to be tamper-proof. The M Series includes this as standard."

The new amplifiers will be available later this year with the same AESOP network technology that is available for the Powersoft K Series.
www.powersoft-audio.com

Compact Mackie Subwoofer

Mackie has announced a new powerful compact subwoofer, designed specifically for use with the SRM450v2. The Mackie SRM1801 powered subwoofer has a ported bass reflex design that produces tight low end. It is lightweight and portable, with a Class-D Fast Recovery power amplifier; Fast Recovery allowing ocassional pushes into clipping without distortion. The amplifiers have an ultra-efficient, heat-minimising switching power supply, meaning they will stay cool even if driven at top volume for long perids of time.

The SRM1801 has built in active electronics, including a precision crossover and tuning filters for accurate bass response. The subwoofer has both full-range and high-pass stereo outputs for connection to full-range top boxes.

"We are excited to offer a powerful subwoofer for our best-selling SRM450v2," said Mackie Brand Director, Greg Young. "It sounds great, it's really easy to transport and, of course, it gets loud… very loud."

The enclosure is solid-wood covered with high-durability textured black paint and includes an integrated pole cup for a portable full-range loudspeaker. The speaker will be available worldwide in June 2010.

"It's a powerful, plug-and-play solution for small clubs, DJs or anyone that needs massive low end," commented Young.
www.mackie.com

DECADE CELEBRATION

The Teenage Cancer Trust has celebrated the tenth anniversary of its music events, with 10 days of concerts featuring artists including Suede, JLS, The Specials, and The Who at the Royal Albert Hall. Shure supplied PSM900 wireless personal monitoring systems. "We'd already heard demonstrations of Shure's PSM900, and it was immediately obvious from the sound quality that we had to showcase them at the Teenage Cancer Trust shows," says Liam Halpin, Entec's Audio Technical Manager and Crew Chief for TCT. "TCT gives us an opportunity to put new products to the test in fairly intense situations. And everybody that used the units at the TCT gigs was blown away, many commenting that the new CueMode feature is something that they had been waiting for someone to implement." said Liam Halpin, Audio Technical Manager for Entec Sound and Light, who provided the PA for the event.
www.shure.com

COMPANY LAUNCH

David Cooper has left Midas to form David Cooper Consulting, representing the Midas and Klark Teknik brands in Asia as well as working with other pro audio manufacturers globally. "Our aim is to make the partnership between the manufacturer and their distribution partners as strong as possible," said Cooper. "The experience I have gained from directing Midas' profile and image for nearly 20 years could be of real benefit to other manufacturers in the business. David Cooper Consulting will only ever carry a select few brands – we don't want to be in a position where we can't apply time and focus to the brands we handle." He denied that the recent Behringer takeover played a part in his decision to leave. "Uli is very shrewd. He has invested in the jewel of pro audio and both parties will do well under his ownership."
www.david-cooper-consulting.com

ON TOUR

Electronic musicians Air have recently completed a European and American tour, carrying a combined FOH and monitor iLive digital system from Allen & Heath. The Air iLive system comprises an iDR10 MixRack digitally split to an iDR0 minirack positioned on stage, with iLive-112 Control Surfaces at FOH and monitors.

At one point in the European schedule, the tour was unable to take all of the band's equipment into Russia for dates in Moscow and St. Petersburg. Allen & Heath's distributor, MixArt, provided an iLive system on hire. "It was not the exact same system hardware but that didn't matter," explains FOH Engineer Dave McDonald. "We simply took a USB key with our configuration, plugged it in and there was our show!"

www.ilive-digital.com

NEW INSTALLS

Danmarks Radio Concert Hall in Copenhagen has extended its PA system to make it suitable for amplified music. Designed for acoustic classical music, the hall had an L-Acoustics announcement system of KUDO line source and 12XT and 115XT HiQ coaxial speakers. To adapt the venue for other uses, including rock concerts, the new speaker system now consists of six KUDO large format and 32 KIVA ultra compact line source cabinets with 12 KILO low frequency extension boxes, eight SB118 subwoofers and a coaxial system of 8XT, 12XT, and 115XT HiQ speakers. It is deployed around the concert hall in 10 separate arrays to cover the 360-degree auditorium, with a network of LA4 and LA8 amplified controllers running the system.

www.l-acoustics.com

NEW PRODUCT

Small Speaker Has Magnetism

d&b audiotechnik has unveiled the new E6 loudspeaker, which will supersede the E3. Smaller and lighter than the E3 and equalling or exceeding its performance in every way, the E6 fits between the E0 and E8 loudspeakers within the E-Series product range. It is a high performance multi-purpose loudspeaker employing an integrated 6.5-inch/one-inch exit coaxial driver design with neodymium magnet and constant directivity horn loading. The horn design has a 100-degree by 55-degree dispersion pattern which can easily rotated through 90 degrees, providing a 55-degree by 100-degree pattern without the use of tools. The speaker is a two-way design with a built-in passive crossover network with a frequency response extending from 85Hz to above 18kHz.

The front of the loudspeaker cabinet is protected by a rigid metal grille that is magnetically attached and so can be easily removed in order to modify the horn orientation. The cabinet incorporates a handle and four M8 threaded inserts to connect to different rigging accessories or a safety wire. It can be powered by either the D6 or D12 amplifiers and up to five cabinets may be driven by each channel of either amplifier.

"The E3 has been a great product and has surprised us in the way in which it has developed within so many market segments over the years", said Werner Bayer, Product Manager at d&b. "We are confident that the E6 will prove to be as versatile."

www.dbaudio.com

Lion King Roars With Aviom

A new production of The Lion King at the Theatre Mogador in Paris is streamlining audio monitoring using several Aviom products. Sound Designers Steve Kennedy and John Shivers specified Aviom personal monitoring gear for the project.

The audio setup consists of a Yamaha M7CL digital mixing console with a 16-channel Pro16 A-Net interface card installed. The A-net card is connected to three A-16D Pro A-Net Distributors and 19 Aviom A-16II Personal mixers to provide 16 channels of monitor mix content to the orchestra's 10 musicians as well as providing a monitor feed to the main audio desk. The production uses headphones for most of the musicians and Genelec monitors for the string, flute and horn sections.

The production is co-produced by Stage Entertainment and Disney Theatrical. "At Stage Entertainment we run several shows simultaneously, so to simplify things I try to use the same brand of gear whenever possible," says Stage Entertainment Audio Manager Bertrand Billon. "This way, I'm really familiar with the equipment and can also switch it out from show to show if needed. I've used Aviom on several projects because it's easy to use and gives musicians their own customized monitor mix."

www.aviom.com

NEW INSTALL

The Waterfront, a 700-capacity venue in Norwich owned by the University of East Anglia which hosts over 100 live music events a year, has recently replaced its outdated PA system. Production Manager Nic Morris and In-house Engineer Lavar Bullard have chosen Tannoy's VQ Live system. "Given a price point around half that of the competing systems, it was an easy choice for us to make and we are very happy with the result," said Morris.

www.tannoy.com

AWARD WINNER

Martin Audio's signature dance system at the Ministry of Sound in London has picked up one of the industry's most coveted awards after being voted Best Club Sound System Design at the International Dance Music Awards. The awards generate over a million votes from music enthusiasts in 183 countries every year. The club has systematically converted to a complete Martin Audio system, including a bespoke club stack in its main room.

www.martin-audio.com

THEATRE TOUR

Meyer Sound loudspeakers are being used in a production of Mamma Mia! that is currently touring the Netherlands. The production carries a reinforcement system based around 32 Meyer Sound M'elodie line array loudspeakers. In larger venues the M'elodie speakers are normally configured as four arrays of eight each, covering two levels from left and right. The central vocal cluster comprises up to 14 M1D line array loudspeakers, depending on the venue. The Dutch tour will play 16 venues with seven weekly shows.

www.meyersound.com

whatsupuk@audiomedia.com

3D Ambition

While still only in its infancy, 3D is rapidly staking a firm hold on both film and TV programming. KEVIN HILTON talks to Technicolor studios about its 3D ambitions.

There's a strange phenomenon when something can be in its early stages but still give the impression of having taken over the world. There's no better example of that than 3D, which is continuing to burst out over the UK. The cinema has already succumbed, and now television broadcasters are embracing 3D as the next move on from high definition.

BSkyB launched its 3D channel at the beginning of April, starting with coverage of Premier League football shown on screens in selected pubs around the UK. The foundations for this were laid in only the past two years. The England-Scotland match of the 2008 Six Nations Rugby tournament was shot in 3D for a private audience by the BBC, while the corporate presentation market has also provided an early showcase for 3D experimentation.

In late 2008 Sky shot football and boxing in 3D to test the technology and announced that it would launch a dedicated channel over the next year or so. Stereoscopic technologies are changing quickly and although an 18-month gap might seem a long time, it's relatively short in this context. 2010 has already seen two Six Nations matches broadcast in 3D, this time for paying audiences in cinemas.

There were significant changes from the 2008 event; more camera angles and custom 3D graphics. The technology has developed to the point where more facilities are available for stereoscopic production. Two more significant facilities were launched in March and April; Europe's first 3D outside broadcast truck, which Sky commissioned from OB company Telegenic, and a range of services offered by Technicolor at its broadcast post-production and play-out centre in Chiswick, West London.

Both feature the latest 3D vision equipment, including 3ality camera rigs, but audio is not an afterthought. Keith Lane, Operations Manager at Sky Sports, says 3D production could not be done in the same OB vehicle as the 2D feed because the camera angles and corresponding audio, including the commentary, are different.

Going Truckin'

The Telegenic truck, known as T18 or T3D, depending on who you're talking to, houses a Calrec Audio Apollo mixing console, with 48 faders and over 1,000 freely assignable channel processing paths. Sky Sports' Premier League coverage has surround sound throughout, although it is kept to a minimum for the studio presentation, as is the 3D effect. "We've had to be careful where we put 3D cameras in the studio and just add a little bit of depth," explains Darren Long, Sky Sports' Director of Operations. "There is a 5.1 mix for those sequences as well but it all comes alive with the fans and the switch to coverage from the match."

Telegenic is also supplying cameras rigs for studio work at Technicolor's Chiswick facility. The new 3D broadcast service there has evolved from Technicolor's post-production work on feature films. The company is offering facilities for live and pre-recorded programmes, including production of logos, captions, and visual effects.

Testing Times

The services were demonstrated to journalists during March and while impressive, a niggling point was an obvious discrepancy in lip-sync between the stereo audio and the pictures on a live segment. Will Berryman, Global Chief Operating Officer for Technicolor Digital Content Delivery, commented that there had to be some serious consideration to how live 3D broadcasts are managed because there might be 10 to 12 seconds of delay. "We are looking at the signal paths," he says. "What this comes back to is old engineering skills and timing – what happens when – to tune everything over the fibre optic connections."

Technicolor has greater ambitions than just synching sound and picture, however. Its R&D department is working on an audio system that will match the depth of the picture and generally follow the images. This involves rendering the sound and although whatever is developed will be a new system, Technicolor wants it to be standardised and compatible with 5.1. "We want to target any environment and it will be for broadcast, not just cinema," said Gary Donnan, Senior Vice President of Research and Innovation.

There is still caution in parts of the broadcast market but 3D momentum is building. Sony will screen 25 matches in the format during this summer's World Cup matches; Sky is, by necessity, relying on public venues like pubs to show its coverage, but with the first 3D TV sets now on the market in the UK, stereoscopic pictures in the home are possible – or at least for those with a spare £2,000.

On The Road

On the facilities side NEP Visions will have two new trucks on the road in July, both based on 3Gb a second infrastructures, which allow 3D capable equipment to be added later. CTV OBs will have access to a 3D scanner through its parent company, Euro Media Group, and Arena Television is likely to have an offering in the next six to nine months.

Sky is convinced that there is an audience demand for 3D TV and as Richard Yeowart, Managing Director of Arena Television says, if anyone can pull it off, they can. 3D is perhaps the trickiest of technologies to have been unleashed on the public. Even with a standard, any problems with how 3D looks and sounds could be disastrous. "It is important to get the fundamentals right," says Chuck Parker, President of Technicolor Digital Content Delivery." If there is another bad consumer experience then 3D won't launch."

With the amount of money and time being invested in the UK, facilities and broadcasters – one in particular – must be hoping everyone get everything absolutely right.

Shotgun Mics: The killer package

Users and reviewers agree, the Røde NTG-3 is an amazing shotgun mic at an even more amazing price. A true condenser design with RF bias and ultra-low noise figures, the moisture resistant NTG-3 out-guns other microphones costing more than twice the price.

And with a full range of high quality, low cost accessories available, Røde makes it easy to put together your own killer shotgun mic package.

NTG-3

ALSO AVAILABLE

Telescopic Boompole

PG2 Pistol Grip

WS7 Windshield

Blimp Windshield

NTG-1 and NTG-2 short shotgun microphones

"After just a few weeks of use, I'd rate the NTG-3 as an essential bit of kit." Audio Media

"I was sufficiently impressed to buy the NTG-3 and price was not the determining factor." Resolution

"The winner of these shotgun shoot-out tests is the NTG-3 and for its price it is an amazing piece of kit." Focus

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MEDIA MATTERS

Belgian broadcasting mirrors the unique political and linguistic nature of the country. The cultural communities are responsible for regulating radio and TV. Belgium does not have a single public broadcasting organisation, but two separate bodies, with their own regulations, running their own radio, TV, and broadcasting.

Some 95% of Belgians are hooked-up to cable TV; one of the highest take-up rates in the world. Cable services offer dozens of domestic and foreign channels, including Dutch and French stations. Belgium aims to complete the conversion to digital TV by 2011, when it plans to switch off the analogue signal.

The Dutch approach to public broadcasting is unique. Programmes are made by a variety of groups, some reflecting political or religious currents in society, others representing interest groups. These organisations are allocated airtime on TV and radio, in line with the number of members they have.

The TV market is very competitive. Viewers have access to a wide range of domestic and foreign channels. Every province has at least one local public TV channel. The three national public TV stations enjoy high audience shares.

Luxembourg exerts immense media clout and has a long tradition of operating radio and TV services for pan-European audiences, including those in France, Germany, and the UK. The Luxembourg-based media group RTL is behind much of this activity. RTL's radio stations have been a part of the broadcasting landscape in France and Germany for decades.

Generations of British listeners grew up with Radio Luxembourg, 'The Great 208' is no more, but RTL's TV and radio stations remain key players in media markets across Europe.

Luxembourg's media empire extends to the skies. The country is home to Europe's largest satellite operator, Societe Europeenne des Satellites (SES), which operates the Astra satellite fleet.

Community Expands European Operations

Following a successful Prolight+Sound show in Frankfurt, Community Professional Loudspeakers has announced an expansion of its European operations. The addition of a new warehouse in the Netherlands will enable Community "to dramatically reduce delivery times throughout Europe" for its core products.

"As our worldwide sales continue to grow, we appreciate the need to provide our European distributors with the same speed of service that we can give our customers in North America", commented Julia Lee, Community's Director of Marketing and Sales.

Community's Entasys column line array is among the most popular products being stocked in the European warehouse, says the company. Demand for Entasys has continued to increase as the system gains popularity in house of worship and conference room projects, where quick turnaround time and expedited timelines are necessary.

"We have been active in Europe for over 20 years and it is an important market for us," added Lee. "Opening this warehouse is a key investment in our continued growth in the region. Maintaining stock in Europe will greatly reduce our response times, as well as lowering shipping costs for our customers. We're very pleased to be able to provide this improved level of service."

Marcel Albers Joins Synco Europe

Synco Europe Network, the pan-European alliance of independent audio rental companies, has announced the appointment of Marcel Albers as its new Commercial Director.

Albers, a well-known entrepreneur in the Dutch music and entertainment industry, has a 20-year track record of success as an international artist manager, theatre and television producer, and record company owner, and has close ties with many key figures in the international entertainment industry.

He will coordinate all activities related to Synco Europe from the Ampco Flashlight Group headquarters in Utrecht, Holland, while continuing to oversee his existing business interests.

Dick van Berkum, CEO of the Ampco Flashlight Group, said, "I'm delighted that we have a person of Marcel's calibre to lead the challenge of developing the Synco Europe Network that Fred Heuves established over the past decade. We are convinced that this appointment will bring a new boost and an even greater future for Synco Europe."

Marcel Albers comments: "I'm very excited to help realise what we all feel is great potential for Synco Europe as an international force in delivering world class concert production for audiences everywhere."

Mamma Mia! Goes Dutch

A new touring production of Mamma Mia! is filling theatres across the Netherlands, with dialogue and lyrics in Dutch but with a sound that is universally Abba. The production carries a powerful reinforcement system based around 32 Meyer Sound M'elodie line array loudspeakers.

The particulars of loudspeaker system configuration are the work of the production's Associate Sound Designer, Richard Brooker, who was charged with fulfilling overall requirements set by Bobby Aitken, Principal Sound Designer.

"I'd first used M'elodies on my design for a Spanish production of *Jesus Christ Superstar*," recalls Brooker. "I needed to handle a dynamic and often quite loud show, but the production had to change venues quickly. Also, in most places I could not fly the system. After much head-scratching, I went the Meyer route with M'elodies and 600-HP subs. The results were fantastic, and still are with the similar system we have for *Mamma Mia!*"

The flexibility of the M'elodies is also a big plus for Netherlands-based Assistant Sound Designer Wibo Vermeulen, who uses the Meyer Sound's MAPP Online Pro acoustical prediction programme to fine-tune the system for each venue. The halls range from 875 to 2,161 seats, in various shapes and sizes, from typical 'horseshoe' theatres to post-modern asymmetrical auditoriums.

"The M'elodie is adapting very well to all venues," says Vermeulen. "Because of its small size and light weight, it can be hung or stacked nearly everywhere, without compromising either sight lines or sound quality."

In larger venues, the M'elodie complement is normally configured as four arrays of eight each, covering two levels from left and right. The centre vocal cluster comprises (venue dependent) as many as 14 M1D line array loudspeakers. The complete Meyer Sound complement includes six 600-HP subwoofers, 11 UPJ-1P VariO loudspeakers for foldback and fills, and three easy-to-conceal MM-4XP miniature loudspeakers for downstage lip foldback. System supply came from Autograph Sound of London.

The Dutch tour of Mamma Mia! opened in September 2009 and will close in July 2010, playing 16 venues with seven weekly shows. Other Mamma Mia! productions worldwide are using Meyer Sound systems for reinforcement, including the Spanish tour supplied by Fluge Madrid and the Australian tour by System Sound.

Residential Recording in Belgium's Ardennes

Located in the village of Waimes in the heart of the Belgian Ardennes is one of Europe's largest recording studios. La Chapelle & Gam Recording Studios consists of two studios – La Chapelle (Studio 1) and Gam (Studio2) situated a couple of hundred metres from one another and close to converted farm buildings that house the delightful residential facilities.

The recording facilities date back to 1995 and for the past eighteen months, the studios have been under the ownership of recording engineer and musician Stijn Verdonckt.

"I think it's fair to say that we are now the only true residential recording studio in Belgium, as we offer the accommodation for no extra charge at all" says Verdonckt who first came to La Chapelle when they needed a Flemish-speaking assistant. "Happily, there still appears to be a role for facilities such as ours in the international recording market."

The main studio is housed in a former hat factory that dates back to the 19th century and was once a leasing employer in the region. The building was completely acoustically treated by Harris Grant & Associates, and Tom Hidley.

The recording area is one of the biggest in Europe and can easily accommodate a full symphony orchestra. Acoustic panels and curtains allow the recording space to be altered acoustically and physically. At the heart of the control room is an analogue Euphonix console backed up with a full range of outboard gear – both vintage and state of the art.

"Being an engineer myself I really appreciate the large control room and the Euphonix desk in particular. It's a very versatile desk, you can do a lot of different things with it.

La Chapelle attracts work from across Europe. "We get a lot of work from France and that's because the studio has established a bit of tradition with French clientele," says Verdonckt. "The previous owner was French. Once people have been here once, they tend to come back – repeat business that is most welcome. We also get a lot of work from the Netherlands and, of course, from Belgium. And we have a regular run of UK and German producers coming here. A growing market for us is film music recording. Because of the large recording hall, we get more and more film music recording sessions in.

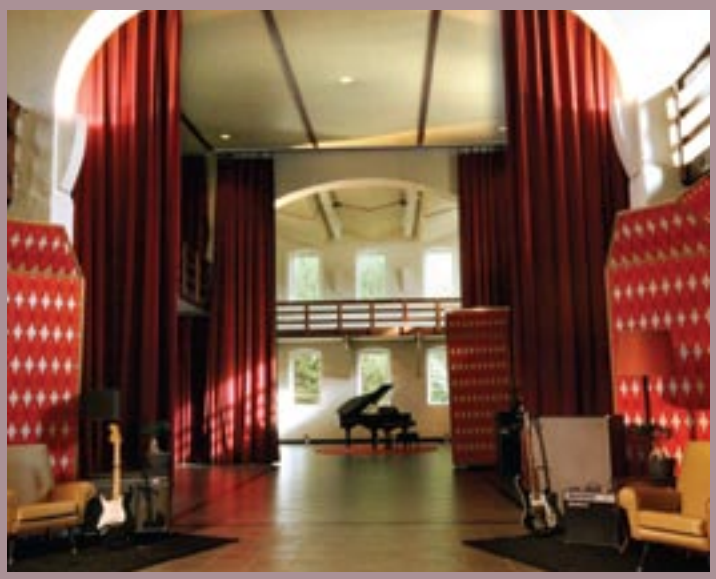
"The size of the recording hall is a major attraction. The hall allows a band to play in a real live setting, but we still manage to separate all the sources. We work with the acoustic panels and the curtains. The actual hall is 25x12m, 8m high, and gives a volume of 3000 cubic metres. A lot of people think it will sound like a church and there will be too much reverb, but that is far from the case.

"We have a drum booth in the back and a vocal booth. And then there is the residential factor. It wouldn't be viable to operate in this area if didn't have the residential facilities. That makes it comfortable for the whole production. People don't have to worry about food and accommodation: everything is here. We also think it's very important that musicians feel at home during their production. We think a good vibe in the studio is at least as important as the technical facilities.

A most impressive collection of instruments and microphones is another selling point. A Hammond RT3, two Leslies, vintage telecasters, guitar amps, and Rickenbacker bass have most recently been joined by a vintage Wurlitzer which Verdonckt found in Germany and is now restoring. La Chapelle's microphone collection is extensive, covering the full spectrum from vintage to modern. "We aim to provide a class microphone kit that ranges from the vintage Neumann U47 to the most recent M149 Neumann, to stereo couple Bruel & Kjaerr and Schoeps microphones."

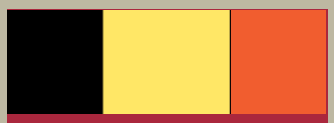
The associated Gam Studio is housed in a farm cottage down the road from La Chapelle and caters for a different market. The self-contained studio and accommodation has been adapted to cater for those on lower recording budgets and is also used regularly for pre-production and rehearsal. Gam's control room is built around a Sony DMX R100 mixing desk – the Baby Oxford. Around a large central recording room with a high wooden ceiling, there are four acoustically treated booths. Gam also has its own accommodation."

Business is rolling along nicely in both studios right now. "We had Producer Jagz Kooner (Primal Scream, Oasis) and Engineer Jon Gray (Editors, The Corral) from Biglife over for a session," adds Verdonckt. "On the technical front, we have bought two vintage Cadac A series 15 track consoles, which will serve as sidecars to the Euphonix desk. The Cadac preamps have the same reputation as the vintage Neve and API preamps, so that's a good asset for the studio. The Cadacs are coming from London theatres that are updating their desks."



INFORMATION

www.lachapellestudios.com



VITAL STATISTICS – BELGIUM

FULL NAME	Kingdom of Belgium
POPULATION	10.6 million (UN, 2009)
CAPITAL	Brussels
MAIN EXPORTS	Machinery and electrical equipment, chemicals, vehicles, metals, diamonds
GNI PER CAPITA	US$44,330 (World Bank, 2008)
INTERNET DOMAIN	.be
INTERNATIONAL DIALLING CODE	+32

VITAL STATISTICS – THE NETHERLANDS

FULL NAME	The Kingdom of the Netherlands
POPULATION	16.6 million (UN, 2009)
CAPITAL	Amsterdam; Seat of Government: The Hague
MAIN EXPORTS	Metal manufacturing, chemicals, foodstuffs
GNI PER CAPITA	US$50,150 (World Bank, 2008)
INTERNET DOMAIN	.nl
INTERNATIONAL DIALLING CODE	+31

VITAL STATISTICS – LUXEMBOURG

FULL NAME	Grand Duchy of Luxembourg
POPULATION	486,000 (UN, 2009)
CAPITAL	Luxembourg
MAIN EXPORTS	Steel products, chemicals, rubber products
GNI PER CAPITA	US$84,890 (World Bank, 2008)
INTERNET DOMAIN	.lu
INTERNATIONAL DIALLING CODE	+352

Studio **Snapshot**

Funky Junk's Room Of Its Own

Leading pro audio consultancy opens its own recording studio.

Funky Junk is a familiar name to anyone involved in the recording and professional sound industries. An all-round audio consultancy and supply operation, Funky Junk was created by industry consultant Mark Thompson when he decided to return to his musical roots and tried to piece together a modest home recording studio. There can be few studios in the UK – and indeed Europe – that have not benefited from Funky Junk's one-stop service for everything pro audio. Now the company has opened its own studio.

Snap! Studios is housed in an unassuming building in North London's Manor Park. It was previously the base for Producer Anthony Marshall who rang Funky Junk to say he planned to move to the States to sign a major production deal and was therefore looking to assign the lease of his studio premises.

It is no great surprise then, that Thompson decided to take the proverbial plunge and create his company's own top of the range professional recording studio – utilising FJ's considerable equipment/service resources and contacts built up over the years. That said, it is still a bold move when professional recording studios are, by and large, struggling to keep their heads above water. As has been well-chronicled, it's not easy out there. However, in his extensive blog on the company website, Thompson asks, "Why, in the present troubled climate, should any sane person plan a new recording studio?"

He answers his own question: "For years, Funky Junk has been supplying and installing equipment in studios around the world, with clients ranging from the guys next door to some of the biggest names in the business. Although we've been honoured to dip technical toes into some of the most exciting and expensive new builds on the planet, more often than not we've struggled to rectify dreadful mistakes or work around serious problems resulting from poor planning, second rate installation, or shoddy work carried out by some of the so called 'studio consultants' who ply their trade on-line or in the pages of specialist recording magazines.

"As with producing a record, building and installing a recording studio is a combination of skill, experience, and vision. If the fundamentals aren't sound, the facility will never work properly. Moreover, the waste of time, resources, and nervous energy resulting from poor planning and workmanship can doom a project from the outset. Frustratingly, too many musicians or producers won't take advice, believing they know it all already or that their mate has all the answers or, more typically, falling for a smooth talking, slippery-tongued salesman at their local gear suppliers. Most quickly learn that they've been had. And all too often, it's a very, very costly lesson.

"I can't begin to detail the number of times we've been hauled in to rectify serious errors caused by amateurs professing to offer a professional studio design, build or install service. And as with any technical project, the expense and difficulty of putting right problems vastly outweighs the cost of getting things right from the outset. In fact, it costs no more to do things right than to get things wrong, and the results can be spectacularly obvious.

"So from a business standpoint, Snap offers an opportunity to show what Funky Junk can do on a comparative shoestring and how careful planning, budgeting, and project management can slice tens of thousands of pounds from a studio budget."

The complex features a large live room and control room, plus a smaller studio for writing, programming, and mixing, plus a vast array of equipment and instruments – vintage and modern.

"My first choice as builder and acoustician was, as always, Stephen Pickford (Fritz) of Thumbprint," says Thompson. "With over a hundred professional studio builds under his belt, Fritz combines huge experience with a degree of common sense lacking in so many other acousticians. He has the rare gift of listening to the client's requirements (no matter how wacky), understanding the customer's budget constraints, and finding ways to fulfil the most demanding brief while working to whatever (reasonable) cash constraints prevail. And crucially, his rooms work. They sound great – flat, uncoloured, and capable of great results."

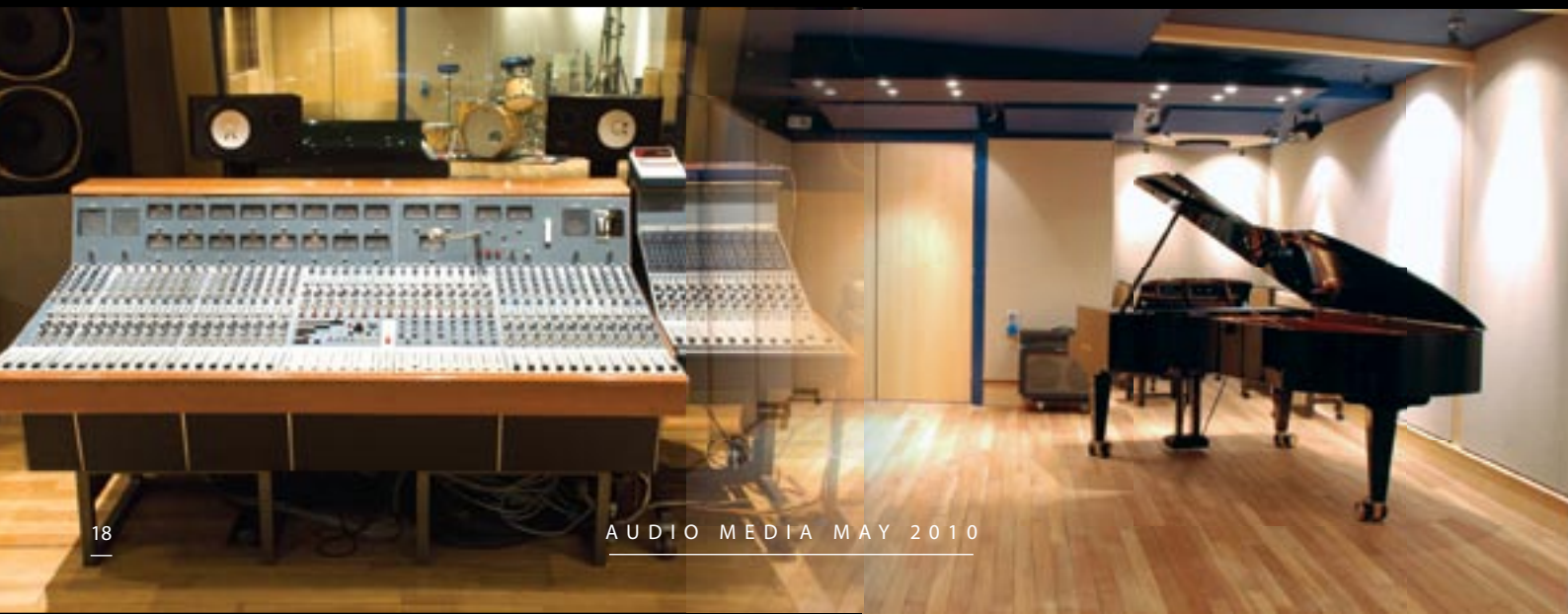
At the heart of Snap's main control room sits a rare 1972 Neve 5316 recording console. "What makes this 53 series console so special," says Thompson, "is that it is an ultra-rare recording version of the better-known broadcast desks and offers 32 inputs (with eight aux), sixteen groups, and sixteen monitors (all with auxes and routable to mix). In total, the console offers 48 inputs on mix, all with EQ (the monitors having classic Focusrite ISA110s strapped in line)." In addition, the control room boasts a twelve channel matching sidecar, bringing the total number of channels on mix to sixty.

One of the first clients to utilise Snap's gleaming new facilities was Producer Alan Winstanley. He reports, "Having just left Snap with fresh mixes playing on my home stereo, I'm amazed that they sound as rich and full as they did coming through the vintage Neve desk and Tannoys in control room 1. As soon as I walked into the joint I was impressed with the very workable layout and size of the control room and recording space.

"We recorded my old band (Deaf School) almost completely live and never felt in any way uncomfortable or cramped, whilst sharing the room with a beautiful Bosendorfer grand piano that I recognised as a former occupant of my old studio, Westside. All the staff were friendly, helpful, and talented – a pleasure to work with. I recommend this studio to anyone who appreciates the beauty of a very musical analogue desk and a very musician friendly environment."

INFORMATION

www.snapstudios.co.uk



KMR's Spring Selection of Sound Investments

Neve Genesys

A hand-built expandable analogue recording console with digital workstation control, recall, automation and digital reset.
"A small chunk of Neve greatness."
– George Shilling *from* **£ 33,252.50**

API 527

500 series compressor
The 527 features comprehensive controls including variable attack, release, ratio, and output gain controls. The unit also includes API's patented 'Thrust' circuit, first offered on the 2500 Stereo Bus Compressor. A 10 segment LED meter is switchable between gain reduction and output level.

£ 822.50

Soundman OKM2 Classic

High quality German made binaural microphones.
Hear sound the way nature intended…..

"the OKM II K headset is a bargain for convenience and excellent sound quality"
– Electronic Musician

£ 205.63

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Digital microphone technology from the microphone masters. Huge dynamic range, no noise, clinical sound reproduction and remote controllable set-up. There is a place for digital microphones in today's studios, post facilities and live applications.

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– Michael Brauer
"The MicroMain27s sound amazing!"
– Butch Vig
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KMR AUDIO

Avidly Euphonix

Avid has bought Euphonix, and soon Euphonix will be Avid... It will be a new beginning for the company but an end to the name. What else does Avid have in store for Euphonix, it's customers, and its partners? PAUL MAC talks to Chris Gahagan, Avid's Senior Vice President of Products...

Paul Mac: Why has Avid bought Euphonix?

Chris Gahagan: "First, I think it really does complement the product offering that we have today.... Euphonix gives us a broader set of products, and specifically in a market that we don't play in today, with its Artist Series, which is really for independent professionals both in audio and video... We think it's really exciting, and it's actually an emerging market – as those two worlds become closer together – audio and video. Then, with the very large surfaces, it offers a set of products that we don't have today.

"If you look at where Euphonix was positioned... it's really a place that Avid didn't participate in, so I think it's just a good addition to our product portfolio...

"The second one, which I think is as interesting... is EuCon, which is the control protocol. Euphonix has done a good job at establishing that with other vendors in the market... Our intention is to take that EuCon protocol and make it even more open – with products like Pro Tools... We are going to enable it natively with EuCon. And then if you look at our ICON control surfaces, over time you'll see us offering those with EuCon as well.

"...We want to make it more open as a protocol and open it to other vendors, even beyond what Euphonix has done – and use it as our single interface or control protocol for the set of control surfaces that will be coming from Avid over time... Whether it's artist series, or whether it's a large format surface, those things will plug into software, whether it's digital audio workstations or video editing software, in a consistent and uniform manner."

PM: In the past, Digidesign had been somewhat notorious for not playing nicely with other manufacturers. Now Avid is publicly committed to openness. Can you confirm that Euphonix will continue to work closely with third parties, such as Steinberg and Apple, on the EuCon protocol?

CG: "Absolutely. If you really look at what has happened and where Euphonix has done a good job, it is in creating a developers kit to connect to EuCon. So the majority of the work that's been done for third party software has been done by those third parties. Euphonix has provided them with a set of software libraries and capabilities, but the modifications to Apple software, to Steinberg, or to others, was done by those companies, which is the method that makes sense... We're not the experts on that and in most cases those companies wouldn't want you to see their intellectual property... What we will continue to provide are those development kits that allow third parties to plug in... And we would love to find more – whether it's software companies or other providers who want to plug into that open protocol."

PM: Do you have a timeline for Pro Tools EuCon support?

CG: "In general we don't talk about futures or a road map... I can tell you it's something we're working on... It's a priority for us."

PM: EuCon works well for third party software companies and for the controller manufacturer. To further Avid's commitment to open standards, will you be opening EuCon to other controller manufacturers?

CG: "Again, this is a question that we're going to deal with in the future. Today – and this again is what we talked about in terms of enabling extending the protocol – today the protocol doesn't provide for those capabilities... That's not a limitation that Avid has put on it. If you look at Euphonix and what the protocol does today, it doesn't have support for third party hardware. It's something that we will evaluate and determine on a go-forward basis. If we did that, it would be a case in which we would extend the protocol to support that."

PM: It's a potential clash with the commercial interests of Avid isn't it?

CG: "I guess it's no more than it would clash with our commercial interests on software – on Pro Tools... You're right, there are commercial issues but there are also technical issues that go with that... But again, if you look at our business today Pro Tools is a very important software offering for us. It is a cornerstone of our audio products and I think by putting that at risk and, by opening that up to EuCon, it's a demonstration that we are serious about this... By the way, if you recall, at NAB this year we announced support for the Matrox Mini as another monitoring solution. You could argue that we're putting at risk some of our video monitoring business, but it's something that we are committed to doing – not only on the audio side but the video side.

"It takes time - not time because we're going slow – it does require engineering work. Obviously we can only do so much at a time."

PM: Openness and compatibility has probably been one of the biggest issues in past years.

CG: "It'll obviously take time for that sentiment to change. It's always hard to change people's impressions and opinions, and we realise it is a multi-year journey. We have to gain 'proof points'. I think every quarter when we come out with more proof points... people will start to believe us and we'll start to get credit for it. We understand why we are painted with that brush, and we're actively doing things both on a development side, and also releasing products that are far more open...

Avid's Senior Vice President of Products, Chris Gahagan

"...Obviously we believe, at Avid, that we should be able to win in the market place because we provide a better DAW and a better surface or console – and not just because that's the only way you can buy them... We want to win on the merits of both."

PM: Is Avid committed to maintaining the Euphonix audio engine for the Euphonix product line, rather than, say, switching to Pro Tools|HD?

CG**:** "Absolutely..."

PM: Will Euphonix become Avid, by name?

CG: "The answer is yes. Just as we've been making this transition over the last few years to one Avid – where Digidesign is becoming Avid, and Pinnacle is becoming Avid, and Sibelius is becoming Avid, and all the other companies are becoming Avid – Euphonix will become Avid. The good news is that we've gone through that process with all of the other five companies that became one over the last couple of years. I think we've got the history of knowing how to do it and have learned a lot through those transitions, and so we will be making that happen very rapidly." AM

INFORMATION

Avid
www.avid.com

Start as you mean to go on

ISA RANGE - ISA One, ISA220, ISA428, ISA430 MkII & ISA828

RED RANGE - RED 1, RED 3, RED 7 & RED 8

LIQUID RANGE - THE LIQUID CHANNEL & LIQUID 4PRE

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London - Eastwood Sound and Vision , **London: Clapham -** Digital Village,
London: Romford - Digital Village, **London: Soho -** HHB Communications,
Manchester - PMT, **Newcastle Upon Tyne -** Sounds Live, **Poole -** Absolute Music Solutions

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Enacting Vision

The Adam Levenson Interview

One of the most important people in game audio, Activision's Adam Levenson, talks to PAUL MAC about emerging trends, maintaining standards, and the challenges of the future.

Adam Levenson is the Director Of Central Audio And Talent at Activision, which makes him one of the most important people in game audio. He has sonic responsibility for an array of massively successful titles and brands, including current hot properties such as *Blur, Call Of Duty, Spyro, Spiderman, Singularity, Bond*, and many more. Excitingly, Levenson has also been confirmed as the Keynote Speaker at this year's Develop conference Audio Track, in July.

Levenson's Director role spans two groups within Activision, and these sit within a central resource for the Activision group (located in Santa Monica, US – the company's headquarters). The Audio Group deals with audio-technical, sound design, scoring, and so on, while the Talent Group is a relatively new construction and recognises the increasing importance of performance capture, and high quality script-writing and story telling in games. Its remit extends to voice talent, celebrity talent, script writers, and so on.

As well as these two distinct disciplinary areas, Levenson sees two levels to the overall role. One is to "Get in on the development level and help out on nuts and bolts – scoring the games, helping with sound design, with audio programming." The other is "more about setting vision, looking forward, and driving technical innovation."

"Most importantly," Levenson explains. "At the foundation of all of this is our work in business affairs. Most of what I do is making deals... with composers, with talent, with voice over services, with sound designers, with post production companies – basically getting all of the resources together so our studios can do what they need to do."

The reason such a central resource is potentially so valuable is that Activision operates an independent studio model. "The studios are creatively independent," Levenson explains. "We allow them to fulfill their vision of whatever game they are working on." When asked if that means Activision HQ is purely a creative resource or whether he still had responsibility to drive projects, he responds: "It's a bit of both...

"We can step in and help, and have an agenda from an Activision perspective. That agenda, in my case, is that these games have to sound fantastic... What I'm trying to do is raise the quality of the content in the games and at the same time I'm working hard to provide the studios with the basic things that they need."

Time Shift

Over the four years that Levenson has been in this senior role at Activision he has overseen a palpable change in attitudes to audio across the group. "When I came here, we were very low on the totem-pole as far as our audio reviews were concerned," he recalls. "If you looked at IGN or any of the major sites that rank audio scores separately we were not doing well. Over the last four years we've worked really, really hard to make an improvement there, and it's amazing to see how much more important audio is now."

Levenson sees much of this progress partly as a function of a more general trend in the games development industry. For example, increasing emphasis on quality dialogue – both in script and performance – is being driven by high profile games such as *Heavy Rain, Call Of Duty, Assassin's Creed*, and *Drake's Fortune*. "You can no longer get away with second rate dialogue," he says. "The games have to have dramatic value and that goes for music too... So now there's so much focus on audio quality, it's just fantastic to see."

He relates the experience of being stopped by an Executive Producer recently and being asked for a priority meeting regarding the audio for a *Spyro* title. Levenson: "I walked away from there thinking 'I don't think that conversation would have happened four years ago.'"

Asked to pin down the secret behind Activision's progress on audio, Levenson describes a couple of important building blocks. One is getting the business right: "How do I get my composers? How do I get my voice talent? How am I working with the talent unions?... If those things aren't working, there is no way, even if you've got fantastically talented people, that you're going to get where you want to go." Even improvements in the contractual process for hiring talent has freed up time and resources that are better spent in creative endeavours. The second pillar of progress is a solid technical base.

In terms of external contributions to Activision's projects, the message seems to be that, for the moment, the company understands its own strengths, and the value of the experience and expertise in the wider production community. Levenson: "I think right now what you're seeing, at least in Activision, are really specialised internal teams that are entirely focused on the game – on implementation.

"It would be ideal if everything could be in house, and maybe one day it will be, but right now we need to focus on our expertise, which is making games. When we need to get a score written or we need to get a script written, or we need movies mixed, it's fantastic to be here in Los Angeles where we can reach out and make those things happen."

"How do I get my composers? How do I get my voice talent? How am I working with the talent unions?... If those things aren't working, there is no way, even if you've got fantastically talented people, that you're going to get where you want to go."

Adam Levenson, Director of Central Audio & Talent at Activision.

Levenson sees the process of game audio production as having come back round to increasing emphasis on implementation – as developers strive for ever-more adaptive and reactive content. The time when a film person could step into an internal game audio team is fast disappearing: "That person is more likely going to be contracted – he's going to have external function. They're going to work on the project for four weeks, and be done."

Risky Games

The sheer size, investment, and risk in game production these days necessitates a very tight hold on the quality of the content. A few bad reviews, or the perception of a 'lower than benchmark' title can devastate even the biggest projects. At Activision there are several levels of peer consultation and quality assurance that obviously encourage creativity and the necessary pride in standards, while presumably maintaining healthy pressure on development studios.

A recent initiative is 'Fast Forward' – a series of conferences within the Activision group focused on next-generation sound. Levenson: "I think we had about 25 or 30 people at the first meeting from all-over – video conferencing in. It was just an hour and a half conversation about what is next... We're going to have a couple more of those in the coming weeks."

To be a truly progressive developer though, Activision needs a mechanism for open self-criticism and final approval, which cannot be an easy thing with so many studios, titles, and contributors (and ►

so much at stake). Currently, this is catered for by three main processes. One is the 'green light review', which is an evaluation of all aspects of a title, with the audio falling under Levenson's department. Another is a QA Audio and Video group, within the QA department at Activision, charged with thorough technical examination and reporting. Finally there is a peer review program. "We occasionally take a game and send it out to the other studios for peer review," explains Levenson. We get comments from the other studios on some of the games. That's a fantastic way to get feedback."

So, does all this evaluation and consideration over game audio result in some core areas for longer term improvement? Levenson: "There's so much that can be improved. I think we're just at the very beginning of what will one day be a fantastic art form. There are still many things that function in a very primitive manner. I mean, if you look at the way dialogue is played back, it really hasn't changed in 15 years. We basically play dialogue the same way we did in the early '90s – and that goes for music too.

"...What we do right now is we record a dialogue line and at a certain point in the game we play that line. What that is – and this goes for music too – is taking a linear form... and slapping it on top of an interactive experience. So you've got this kind of dissonance where a linear piece is playing along – but what's really happening in the game is a lot of true interactivity. So what we need to do going forward is figure out how to deconstruct that linear content and make it work in a truly interactive fashion with the games. When that happens it's going to get a lot more exciting; but right now, we're not there.

"If there's one thing that I'm really hoping for and that I'm working hard to try to move forward, it's the evolution of games into a more truly dramatic form of entertainment. I'm really looking forward to expanding the palette and finding new ways to make dialogue and music truly interactive." AM

Adam Levenson will be the keynote speaker at this year's Develop conference Audio Track, and will also be presenting a lecture on in-game audio, drawing on 17 years experience in the business. We asked him if he could hint at what his keynote might include...

"What I'm going to talk about at develop is definitely the future of sound – touching a little bit on what we've just talked about – how we're going to go from where we are right now to a more truly interactive representation, and creating more of a real world experience... The real world is not bumping into someone and having them repeat themselves every time there is a specific direction.

"As games become more diverse we're very likely going to see the *Heavy Rain*, *Assassin's Creed*, *Drake's Fortune* style of game play become almost its own thing – more towards that whole idea of an interactive entertainment experience as opposed to a game. You're going to see the need for that become great, and people are going to come up with solutions. I think that is, for me anyway, tremendously exciting and interesting... It's definitely going to take a technological leap to make it happen."

win a Super-Pass!

Audio Media has two Develop conference super-passes to give away to two lucky winners.

Each pass gives full, three-day access to the entire Develop conference – a very special opportunity to learn from and to network with the growing international games development industry.

To stand a chance of winning, simply e-mail your name and contact details to develop@audiomedia.com and you will be included in the draw. Two winners will be selected at random.

The closing date for entries is June 14, 2010. Winners will be notified on June 15, 2010.

Develop In Brighton

Develop can be summed up in four main parts: Develop Expo is a free exhibition that runs alongside the conference; Evolve (July 13) is a day of everything that's new in game development (new platforms, new technologies and new markets); Edu:09 (July 14) is all about games and education; and the main conference programme, which runs over two days (July 14-15) – with the Audio Track on Wednesday, July 15.

Develop bills the Audio Track as "a solid, practical programme to improve your work and reputation," and says "While at its best game audio now matches movies from a technical standpoint, there's still plenty of progress to be made artistically... challenges ranging from cross-platform development and emerging formats such as iPhone to global competition mean there's always more to learn."

Passes for the conference are available soon via the Develop website. Manufacturers and service providers interested in exhibiting at Develop Expo should contact Andy Lane at Tandem Events (andy@tandemevents.co.uk).

Develop In Brighton: July 13-15, 2010

Hilton Brighton Metropole, Brighton, UK

www.develop-conference.com

Audio Media is the official media partner for the Develop Audio Track.

PAUL MAC's expectations of the C 414 are fulfilled in its two new evolutions.

AKG C414 XLS & C414 XL II

Large Diaphragm Condenser Microphones

The AKG C 414's ancestry is long and complicated, starting somewhere in the depths of time with the C12. Now though, the 414 has escaped complicated historical relationships to become a fixed point. In whichever of its name and number variations you prefer, this microphone can be turned to almost any application with the confidence of one who knows.

The last time we looked at the 414 stable, AKG had just brought out two new models: the C 414 B-XLS, with accuracy and instruments in mind; and the C 414 B-XL-II – aimed more at vocal performance with an upward trend above 3kHz designed to bring forth the spirit of the C12. Since then the company has removed the 'B' and simplified the offering to new versions of the C 414 XLS and the C414 XL II. Both are transformer-less mics based on tried, tested, and almost legendary hardware that has gone before – with a couple of tweaks.

The previous models had five standard polar patterns from figure-of-eight to omni, selected with a left-right switch and five LEDs. Now, that offering has been extended to nine polar patterns. This means that the 'in-between' patterns are now available, indicated by the two LEDs either side of the selection. You may be of the opinion that five patterns are enough for anyone, but that any number of critical positioning or acoustic situations can guide you to an 'in-betweener', and the addition is significant. Although, the old 414E1 had nine patterns via a remote control, so it's more 'giving back' than adding.

Incidentally, the pattern selector features a peak indication where the normally green selection LED will turn red if signal gets to -2dB from overload.

The other available selections on both models are four degrees of pad (0dB to -18dB) and four HPF cut-off frequencies (0Hz to 160Hz).

The second tweak is a lock mode for the 414 controls. You simply hold down the pattern selector switch for a couple of seconds and all buttons, including the pad and filter selectors, are locked out – even after power has been lost and reconnected. Given the nature of the 414 selector switches (which I do like), this feature is definitely overdue. Accidentally switching something while trying to re-position can be a little annoying.

Other than that, it is right to expect an uncompromising 414 sound and performance. You should expect that the XLS will be spot-on, with a depth that really does make it a great all-rounder. And you should expect the XL II will be crisp and airy – cutting through a dense mix with ease.

And that's exactly what they are.

INFORMATION

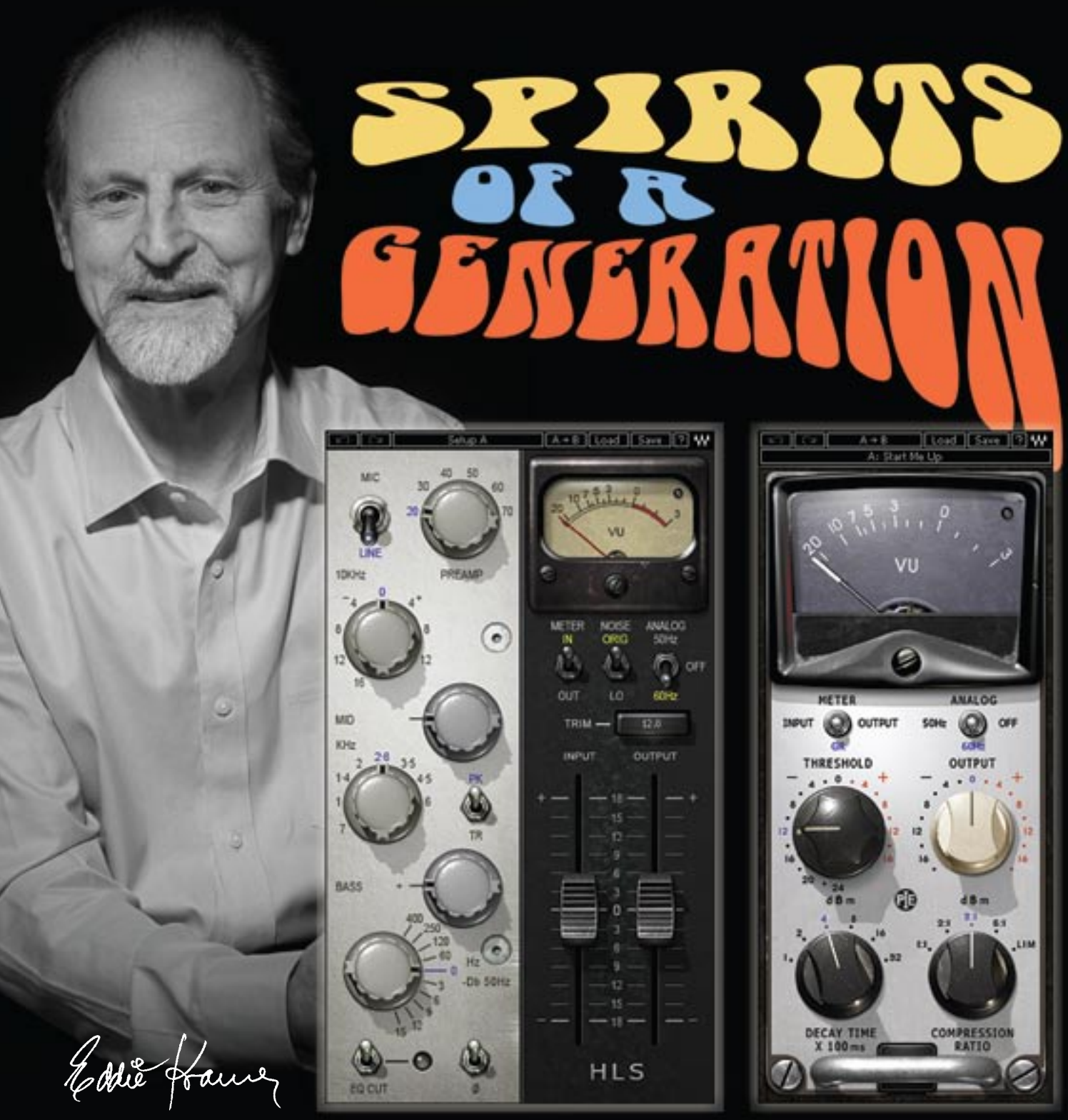
£ C414 XLS – GB£1,065.00 (exc. VAT)
C414 XL II – GB£1,120.00 (exc. VAT)
Ⓐ AKG Acoustics GmbH
Ⓦ www.akg.com

Ⓐ UK Distributor: Sound Technology Ltd., Letchworth Point, Letchworth Garden City, Herts, SG6 1ND
Ⓣ +44 (0) 1462 480000
Ⓦ www.soundtech.co.uk

THE REVIEWER

PAUL MAC is Editor of *Audio Media* magazine.

SPIRITS OF A GENERATION



Developed in association with legendary producer/engineer Eddie Kramer (Jimi Hendrix, Led Zeppelin), the meticulously-modeled HLS Channel and PIE Compressor plug-ins are based on the vintage gear he used in historic sessions at London's acclaimed Olympic Studios.

HLS Channel recreates the original Helios console EQs with their sweet saturation, high-end presence, and fat low-frequency boost, as well as the unique behavior, coloration, and drive of the console's preamps.

PIE Compressor is modeled on the Pye, a mainstay in esteemed British studios throughout the classic rock era, and considered by many to be one of the best buss compressors of all time.

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MODELING

WAVES

Abbey Road's golden-age inspired compressor has ALAN BRANCH exclaiming its excellence from its first hearing.

Abbey Road, one of the most famous studios in the world, has brought another golden offering to the audio plug-in world. The latest addition to its already revered collection is the mighty RS124 compressor. The hardware is a valve compressor model that was specifically made, and modded, by EMI engineers over the 60s and 70s for in-house use at Abbey Road. Each unit is so unique, the RS124 plug-in bundles together three of the best examples. The hardware was never offered commercially, yet is a unit that helped create music history. How good is it? I can't remember ever exclaiming, 'Wow, holy cow,' to a compressor before the first time I heard an RS124 working.

ABBEY ROAD RS124

Compressor Plug-In

In Detail

The plug-in graphic has seven primary controls. The serial number on the left of the unit opens a selection menu with a choice between the 60050A, 61010B, or 60070B serial numbers. The differences between first two are quite subtle, while 60070B has three times faster attack and release times.

A simple input control determines how much gain you want and how much compression is applied, and an output attenuator offers up to 30dB reduction after the compressor. I found it quite easy to overload the plug-in, so you have to carefully balance the output with the input control.

The 60050A, 60070B, and 61010B.

Hold It, Hold It...

The Recovery/Hold control is a six-way selector for release times, plus an interesting 'Hold' position. This is one of the mod's implemented by EMI engineers, and it solved two problems in one go. First, they wanted to hold the release time so the compressor was primed with gain reduction before the audio was passed through it – this addressed the problem of getting an audible thump when first hit by a track. Second, when a track finished the release would bring up tape and ambient noise as the sound decayed. Switching to Hold at that point solved that – very clever stuff. The engineers would have had to play the track to prime the compressors, switch them into Hold, then rewind and play – immediately switching into the correct release once it had started, and remembering to switch it back to Hold as the track ended.

There's also a balance control for activating the release. This moves the meter back to zero and allows you to set the amount of reduction the compressor is primed with.

The power switch is independent of the plug-in bypass and included so you can bypass single units when you are using the dedicated stereo and LCR interfaces (Pro Tools HD only). You can choose different models for left, centre, and right channels, and operate front panel controls as a group or individually.

Was That There Before?

One option that is not a feature of the original hardware unit is SuperFuse mode, activated by clicking on the front panel's fuse-holder. This mode sets the release time to match the attack time, which produces very aggressive compression that can be used for dramatic punch on drums and dynamic material. It's a fantastic addition, and possibly a 'deal-sealer' if you're wondering whether you really need another compressor.

A rather nice VU-style meter emulation showing gain reduction from 0-30dB is also included. However, remaining faithful to the hardware, each model has a unique calibration! I'm not sure if that's helpful or not...

In Use

There are AU, TDM, VST, and RTAS versions for both Mac and Windows platforms, and it's easy to purchase directly as a download from www.abbeyroadplugins.com. Authorisation is done via iLok. Setup is quick and painless. I had no problems running this with Logic 9.1.

Abbey Road's previous TG compressor plug-ins were something special and I have been enjoying using them on many recordings, so I was looking forward to hearing the RS124 – especially as I had heard much of this compressor before. Obviously the Abbey Road studio and its recording rooms had the greatest role in the Beatles sound, but if there was a piece of hardware that helped more than any other, this may well be it. It's so synonymous with classic Beatles sounds that its secret hardware schematics have been traded on the Internet, and engineers have been trying to recreate them by modding old Altec compressors!

Smooth And Creamy

I first tried a vocal through the RS124 and really couldn't believe the effect – an instant creamy sound. This was a vocal taken from an existing mix, with a vintage style compressor I have used many times before, so I was staggered at the change. The RS124 is super smooth. All three serial numbers have fixed attack times and the difference between 60050A and 61010B is subtle, with quite slow attack and release times. The 60070B is much quicker, and my main model choice. No matter what the material, it sounded fantastic – especially acoustic guitars and vocals, with instant full, rich body – lower harmonics were boosted, while the high frequencies seemed smoother but still crisp. For live drums the SuperFuse setting is simply outrageous.

Gaining Experience

It takes a little while to get used to the gain structure of the plug-in. I recommend placing a gain plug-in before or after if you run into problems with gain settings and loud thumps – and maybe also a high level limiter in case of accidents. An audible thump can become a problem quite easily, but automation of the hold function is simple to employ in a DAW. Yes, operation is not as straightforward

THE REVIEWER

ALAN BRANCH is a freelance engineer/producer and ex-member of the On U Sound Crew. His long list of credits include Jamiroquai, Beverley Knight, M People, Simply Red, Depeche Mode, Shed 7, Sinead O'Connor, Bjork, and Sade. www.alanbranch.com

DESIGN NOTES

Frank Filipantis of Cool Stuff Labs collaborated closely with Abbey Road Studios to help create the RS124 plug-in. We asked him to describe the process and special aspects of the challenge that he and the Abbey Road team, including Director Of Engineering Peter Cobbin, undertook to create the RS124 plug-in:

"Translating a piece of hardware to an accurate software emulation is a complex process, and each one has its unique challenges.

"Abbey Road and I analysed schematics, design notes, and factory calibration/test notes along with detailed measurements of hardware reference units (you would be surprised how much variation there can be between two 'identical' hardware units, especially when they are 30+ years old!). Preliminary mathematical model of portions of the circuit are created and checked against empirical measurements of the hardware. The models are refined as necessary, often many times. Gradually algorithms representing circuit elements are combined and re-verified until a complete model of the process is in place. Then we shift to rigorous listening tests... In the end it's a blend of art and science, objective and subjective.

"The RS124 was intended from the outset to push the boundaries of the state of the art for plug-ins. Given the iconic and revered status of the originals, nothing short of exceptional would do. Rather than model an idealised or representative behaviour for all RS124s, we captured the unique idiosyncrasies of three specific hardware units, identified by serial number. This is important because, like many pieces of 40+ year old hardware, variations between the individual units are substantial. Components started off with slight variations, and have aged in different ways. Modifications and repairs over the years have introduced additional subtleties that can't be divined simply by examining the schematic.

"Another challenge with the RS124 is that the hardware is also dynamic over shorter time periods: print the same track with the same exact hardware a month apart and there will be slight variation due to tube aging, environmental effects, differences in interface connections, and so on. The reference winds up being a moving target. Identifying the natural variability within each unit and ensuring that each software model falls within that range required the development of novel techniques for analysis... Ultimately, we wound up with three very accurate emulations. Not only are they all immediately identifiable as RS124s, but if you are familiar with the hardware you can pick out each serial number by ear.

"It has been an honour to work with Abbey Road to bring such a cherished piece of gear to the public, and we are delighted that it is being so well received."

as a modern day compressor, but this will take seconds to learn, and it's not always a problem.

Conclusion

The choice to model three versions of this iconic unit is very fitting. Having compared the RS124 plug-in to a long list of popular valve-style plug-in compressors, I'd guess it will take the top spot in most collections very easily. The sound is simply incredible. The model number could have been made easier to read, I found the grey faceplate a little dark on my screen, and I think a few might find setting the gain a little awkward – but these are minor points. The hardware-modelled plug-in bar has been raised. I think the developers Abbey Road have gone all out to make something as good as the original. Try the demo to dial in some instant double-whipped Abbey Road cream.

INFORMATION

£ LE/AU/VST – US$335.00, TDM – US$560.00

Ⓐ Abbey Road Studios, 3 Abbey Road, St John's Wood, London, NW8 9AY

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SPL DRUMXCHANGER

RTAS, VST, AU Plug-in

Surprisingly simple, and surprisingly effective, says SIMON ALLEN of SPL's drum replacement tool.

SPL has a history of bringing out interesting and unique pieces of hardware, and has recently been busy applying that pioneering spirit to designing and building software for DAW users, such as its new Vitalizer plug-in – a software version of the famous hardware unit. Now, the company's new DrumXchanger plug-in looks to be another in that adventurous tradition, and with the promise of both creative and time-saving advantages, I was keen to have a go.

Overview

Available for Mac and PC, the native version of DrumXchanger includes RTAS, VST, and AU plug-in formats. It's a real time plug-in that will replace drum sounds in a multi-track session irrespective of their level. Not only can it perform a straight swap, but you can use it to mix between the original signal and the sample.

The plug-in window is intuitively laid out into five sections: Input, Original, External Trigger, Sample, and Output. Typically for an SPL product, there are enough controls to get results, without being overly complicated. Parameters such as attack and release times on internal dynamics are already set to the optimum for the job.

There are high pass and low pass sweepable filters for the track, the trigger signal, the sample, and the output stage. The output stage also has a Dry/Wet mix control between the original sound and the sample.

The plug-in also features two of SPL's transient designers, which allows you to be very creative with both the original signal and the sample sounds. In the Original section there is also a ducking feature, so it will eliminate the original hit but retain the ambience from the live drums for mixing.

In the Trigger section you can set the thresholds at which the samples will play. The process, according to SPL, uses the transient Designer technology for drum hit recognition and can recognise "even the faintest of ghost notes." You are able to set a second level to trigger a different sample, such as a rim shot for example. It will also accept an external key chain input.

The sample section is where you can choose, and immediately audition any sample you like either from SPL's own sample library, any WAV or AIF file, or your own DrumXchanger file, which you can create using your own samples with the DrumXchanger's editor. This provides up to three variations, eight velocity layers, and a secondary layer for a rim shot or similar. SPL is currently shipping the plug-in with just three kits with kick, snare, and tom samples, but there are plans to build this library up and it's very easy to make your own sample files. All samples can also be pitched up or down, and a dynamics control is provided to set how the sample mirrors the original dynamics. A delay function allows you to make sure the attacks of the sample and original hits are together.

In Use

I already really enjoy SPL's transient designer, and having two inside this plug-in is what sets it aside from the other drum replacement tools on the market. Initially, it's often the attack of a hit or 'transient' that is a main factor in deciding whether or not to use samples in your mix. With these transient designers, you can do an amazing amount to change the character of your drums completely.

One of the first things that impressed me about this plug-in were the samples that ship with it. They're perfect. It's always interesting choosing samples to use alongside real drums, as you often find the sample is too obvious or it needs a lot of post production, but with these samples, it's like SPL knew what was missing each time. There aren't many samples that ship with the plug-in at the moment, but there are plans to create more and you can always build your own.

I also really like the ducking feature. This gives you the opportunity to use a mostly great sounding sample, while retaining the ambience from the live drums to keep it real. It works very well, with great preset attack and release times.

It's impressively easy to create your own DrumXchanger files, and once you have loaded your samples into the editor, it allows you to export this to a file for use any time, anywhere. This is a really nice feature that lets you take the plug-in's abilities further and personalise your sound, so we don't all end up using the SPL bass drum for every pop hit for the next 10 years.

Conclusion

I found the SPL DrumXchanger had all the right controls, in a very good looking layout, without getting complicated. I think this is key to a solution like this. There is a lot of processing behind the scenes that works well and sounds great without getting in the way.

Even though this plug-in does cause significant track latency, it is amazing how much it can do in real time. As long as your delay compensation is up to speed, it will improve your drum sound much more easily and quickly than you might first imagine. I really like this plug-in for its ease of use and sound quality. This is a great tool to take mixes to a new level within about five minutes.

INFORMATION

£ GB£299.00 (inc.VAT)

Ⓐ SPL electronics GmbH, Sohlweg 80, 41372 Niederkruechten, Germany
Ⓣ +49 (0) 2163 98340
Ⓦ www.spl.info

Ⓐ UK Distributor: The Audio Professionals, Unit 320, The Wenta Business Centre, Colne Way, Watford, Herts, WD24 7ND
Ⓣ +44 (0) 1923 693770
Ⓦ www.audiopros.eu

THE REVIEWER

SIMON ALLEN is a full time sound engineer and record producer. Previously Studio Manager at High Barn Studios in Essex, he is now based at City Studios in Cyprus where he is Senior Engineer and heads up the new music studio.

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James Mather, heading up the sound team behind the great and godly *Clash of the Titans,* talks to STEPHEN BENNETT about those other-worldy sounds and production schedules.

Clash of the Titans

James Mather's long list of credits include a number of collaborations with Animator Nick Park, including *Angry Kid* and *Curse of the Were-Rabbit,* and an overview of the soundman's career was published in *Audio Media* in July 2007. He was also responsible for the audio magic on several films in the Harry Potter franchise and his current project is the latest in the series, *Harry Potter and the Deathly Hallows,* which is due for release in 2011. Mather's team consists of FX gurus Dom Gibbs, Mike Fentum, and Jed Loughran, Dialogue Editors Bjorn Schroeder and Steve Little, and Foley guy, Derek Trigg. The latest film under their audio belt is *Clash of the Titans,* directed by Louis Leterrier. The movie is a remake of the original 1981 epic which, while not able to boast the earlier work's stellar cast of British screen royalty, does come complete with the latest 3D technology – so sit back, don your three-dee glasses, and read the words of the gods!

"Ivan Sharrock was the Location Recordist on the film," says Mather. "The original recordings were delivered on a hard drive as BWAV polyphonic files. These were used in combination with an EDL from the picture department to conform the multi-track audio using Synchro Arts' Titan software. We also use Gallery's MetaFlow software to conform the OMF sequence from the picture department as this allows the Dialogue Editor to bypass the EDL." Mather says that both workflows have their advantages. "MetaFlow works with sample accuracy directly from an OMF so the team don't have to wait for the picture dept. to supply an additional EDL – but it is unsupported legacy software. To quote the editors using it, 'it either works really well or not at all!' Titan is still supported and much more of a reliable workhorse."

Technically Challenging

The initial part of the audio post production process was started during the shoot enabling Mather to establish what was going to be needed for ADR whilst the cast were still available. He says that *Clash of the Titans* was a technically difficult shoot and that many of the recordings on the set were compromised in some way, resulting in an extensive ADR recording schedule – the foreign accents spoken by some of the actors on set only adding to the problems.

"The ADR shoot was overseen by the ADR Editor, Bjorn Schroeder, who worked closely with Dialogue Editor Steve Little to integrate the ADR into the dialogue track," says Mather. "Between the two editors, decisions were made where to use either original dialogue or to replace with ADR. This sped up the dialogue mix by pre-empting these choices before the final mix."

To facilitate a tight mixing schedule, Little extensively used noise reduction software such as iZotope's RX restoration software and Wave's Q10 to prep the dialogue track for the mix. "Overall about two thirds of the dialogue track was replaced with ADR," says Mather. "This of course made for a more intense job for the Foley Editor as many of the incidental sounds also needed to be replaced. But on the other hand, it made for a quicker music and effects mix delivery which was crucial as the foreign version mixes had literally only days to complete before their release dates."

"An FX template was created which would serve throughout the edit and into the mix stage," says Mather. "As a rule, when working on a visual effects heavy production, the initial audio FX pass is made with broad strokes and sound sketches to help create an ambience and texture, and also to serve as a process of approval from the Director and Picture Editors."

At the same time, the overall audio concept that the film would take was discussed with the Director. "In the case of Clash of the Titans, we decided that all the evil creatures should relate to Hades, ending with the Kraken," says Mather. "To this end we compiled a table of elements that we could use to develop as the story unfolded.

Editors As Harpies

Once a concept was agreed with the Director, Mather's team recorded as many alternative vocal effects as possible to help complement the numerous animal effects being used to voice the film's many creatures. "An afternoon of recording the wailing and shrieking of Sound Editors supplied 90% of what became the Harpy vocals, the Scopriochs, and ultimately the Kraken!" laughs Mather, "We also used and processed various gorilla and bear roars – as well as the obligatory pig samples."

To add to these otherworldly sounds, Mather recorded a double bass with loosened strings and over rosined bow at 96kHz, which was then pitched down and manipulated – an idea he picked up whilst working with Hans Zimmer on the sound track for the latest *Sherlock Holmes* movie. "Once we had our elements together, we began with a thin wheeze behind Hade's voice, which then grew into the Harpy shrieks, spread into the witches snarls and growls, and then finally all these elements conjoined to help make the roar and growls of the Kraken," says Mather. "We even incorporated the rumble of a motorbike at times!"

Tools Of The Job

Mather's team edits on Pro Tools 7.4 alongside an array of different plug-ins, with dialogue editing relying on the Waves C4 compressor and various EQ plug-in settings for cleaning up production sound. "FX was recorded using a Sound Devices recorder with Schoeps CMC6 and DPA 4060 microphones, along with Rode NT2A and Sennheiser MKH 418," says Mather.

While the latter list of equipment is commonly found amongst the working kit of any modern audio production, Mather's team has no issues turning to more unlikely gear if it gets the job done. "We also used the Zoom H4n which,

along with these mics, allowed us more opportunities for collecting sounds at unexpected times."

Much of the sound design was created using software such as GRM tools, Izotope's RX and Celemony's Melodyne plug-ins, along with the Waves Diamond bundle and Oxford EQ. "Most ambient tracks were kept predominantly straight in order that the sound felt like it was grounded on Earth," says Mather. "This gave us license to play the ethereal Olympus with more abstract design and surreal tones and airs."

Mather says that ambient tracks were key in helping provide the sense of desolation in Argos. "By hearing the moans and cries of babies and beggars we could help convey this sense without needing to see it too often – a great example of subtext storytelling without needing to have the added time or visuals to assist the viewer."

Clock Fretting

As is often the case in big budget movies, Mather was up against the clock to deliver the film on time and the score was the last element to arrive. "Ramin Djawadi and his crew at Remote Control pulled it out of the hat at the last minute," says Mather. "Mike Higham worked tirelessly alongside Ramin and my team to help nail the score." The music was composed in LA, scored in London, and mixed in both places before being delivered for the dub – which Mather says is, "pretty much the norm these days." Though working to time constraints, Mather's team made sure the score came into the editing suite in the most useable form possible. "Under Mike's supervision and guidance, Ramin was able to work with our temp dub and keep his frequencies clear of the key dialogues and effects," says Mather. "In addition the stems were delivered in such a way that Mike Prestwood Smith, our Music and Dialogues Re-recording Engineer, was given the opportunity to tweak the score and give it maximum space and effect.

The final dub was done at London's Pepper Post's Dolby Premier theatre using their AMS Neve DFC Gemini with Prestwood Smith mixing music, dialogues, and crowds; and Mark Taylor mixing Foley, FX, and backgrounds. In editing, Mather uses Digidesign's D-control to record the automation for the pre-dub into Pro Tools which allows him to carry all the automation, for conforming purposes throughout the project. "The dialogues are also spread through busses and mixed on a D-Control and the DFC simultaneously, which allows all the plug-in work to be maintained," he says. "We record all our reverb automation for the Lexicon 960 and TL Space into ProTools sessions. No pre-dubs are actually recorded until the final dub though – although we always record stems for safety."

Virtually Up To Date

Because music and other audio elements are often delivered right up to the final mix, Mather keeps the editing 'virtual' so that they can work offline to update these new elements and conform to the old ones without taking up valuable theatre time. "This means there are fewer hours spent conforming desk automation and more available for mixing," says Mather. "It also narrows the possibility of any corruption occurring as a result of heavy conforms." Mather says that the support crew at Pepper Post was the best he has worked with. "Jonathan Rush kept us working without fault while simultaneously delivering all our mixes to Warners for approval, receiving music stems from Remote Control, delivering temp Printmasters for foreign requirements, and ensuring that our stems were correctly recorded and labelled," he says. "This is quite a feat on any production, but remarkable on the schedule available to us on *Clash of the Titans*."

Theatre-based surround sound systems allow for a kind of audio three-dimensional perspective to be created but, because of time constraints, Mather wasn't able to experiment with more obviously '3D' sound in the film. "We were given a locked 3D cut only a week before our final mix started," he says. "No doubt that we might have tried things slightly differently had we been working to the digital 3D picture throughout. In my opinion, surround sound has been giving us the equivalent of aural 3D for a long time now, and the only constraint current systems have is allowing us to move objects overhead successfully – although sweeping EQs and adding some sub bass does a pretty good job in giving that impression. Perhaps the next stage of theatre systems will allow surround with overheads – much like the Imax set up."

Just A Trend?

Mather believes that if the current trend for 3D movies isn't just a passing fad and the medium really takes off, expectations for the audio teams to deliver more will follow. "It appears that as the final product becomes more advanced the editorial process is simplifying though," says Mather. "These days, most FX edits are done using mono tracks played via a 5.1 output, so perhaps even editing in stereo will become a thing of the past? As visual FX become a bigger part of the film-making process, it strikes me that sound design has also advanced to such a stage that Pro Tools has become less of an editing tool and more of a design system that can complement the numerous visual FX systems in use. Keeping up with this technology has started to affect the way we work and lay our tracks. It's all more fluid and open ended than it used to be and requires us to work with more design-based plug-ins which, in turn, also require even more processing power. With Avid adding Euphonix to its stable, the crossover between design and dubbing can only become more pronounced in the future." AM

James Mather – *Supervising Sound Editor*
Dominic Gibbs – *Sound Designer*
Michael Fentum & Jed Loughran – *Sound Effects Editors*
Bjorn Schroeder & Steve Little – *Dialogue Editors*
Derek Trigg – *Foley Editor*
Mark Appleby, Antony Bayman, Robert Edwards, & Chris Navarro – *ADR Mixers*
Leigh Humberdross – *Assistant Sound Editor*
Mike Prestwood Smith & Mark Taylor – *Sound Re-recording Mixer*
Ivan Sharrock – *Production Sound Mixer*

We're Back!

De Lane Lea Back In Business

Since its neighbour's fire last year, De Lane Lea has been refreshed and re-booted. Studio 1 is already mixing, and a full complement of facilities and functions are imminent. PAUL MAC reports.

Before the fire, the facility was enjoying a healthy bookings list, with projects such as *Fantastic Mr Fox*, *Quantum Of Solace*, *The Boat That Rocked*, *Hellboy II*, *10,000 BC*, *Sweeney Todd*, and lots more coming through the doors. Indeed, *Fantastic Mr Fox* was in full swing on the day of the fire, and had to be reassigned to Goldcrest.

As it turned out, there was extensive smoke damage inside, and fire-damage to the roof. Aside from a brief firefighter-escorted foray into the facility to pick up some essentials, access to the building was restricted for the first couple of months after the event while safety checks were carried out.

Version 2

Since then the whole building has had to be refurbished; and equipment has been returned, checked, and in some instances replaced. However, in many respects, De Lane Lea has turned the calamity of fire into an opportunity that would never have been available to the facility during 'business as usual'. In October last year, the facility's Chief Executive, Huw Penallt Jones, told Audio Media that "...This has given us the chance to look at what we do, and how we do it."

> "De Lane Lea has turned the calamity of fire into an opportunity that would never have been available to the facility during 'business as usual'."

The intention was always to renew, rather than simply repair, and you only have to see (and hear) the new-look Studio 1 to realise that they were serious. It's more open, more impressive, and more dramatic.

All the studios in the facility have been re-visited and revised, bringing higher standards in monitoring and acoustics. New Meyer Sound monitoring has been installed in Studios 1, 2, and 3; and Munro Acoustics (as well as sister project management company Form & Funktion) has made significant improvements across all spaces. The Meyer Sound system in Studio 1 comprises three screen-channel Acheron 80 and Archeron LF units, with HMS-10 surrounds, X-800C subs, and Galileo speaker management. In Studios 2 and 3 screen channels are taken care of ▸

with Acheron Studio units, and the numbers of subs and surrounds are scaled accordingly.

De Lane Lea's General Manager, Mike King, explained that both Meyer Sound and Munro have been involved in the installation and final set-up of the monitoring, and when I visited, the process in Studio 1 was reaching its final stages: "For the last two weeks, we've been measuring, re-measuring, tweaking, listening, comparing elsewhere, and coming back... You have to re-work and re-work until it is right. And we're kind of more than half way through that process now; bits and pieces still to go, but we're pretty happy with it."

Acoustically, there has been an 'upgrade' process, with some evening out of the bass and surround responses around the space – see the Q&A with Andy Munro.

> "For the last two weeks, we've been measuring, re-measuring, tweaking, listening, comparing elsewhere, and coming back... You have to re-work and re-work until it is right."

Studio Tour

De Lane Lea has a lot of space – possibly more than many people realise. As well as six main studios and a preview theatre, there are over 30 dry-hire cutting rooms available, many of which are taken on a long term basis for specific projects.

Suzanne Facenfield, De Lane Lea's Scheduling Manager explained: "Productions can put accounts in, they can put in the Production Manager, Director, Producer... More often than not though, it'll be sound editorial teams."

"We have obviously phones for each room," continues King. "But also networking, and we can do custom VPNs and VINs and private networks with their own allocated Internet bandwidth, links with other facilities anywhere around the world... We can wire them up to whatever they want." With these rooms busy for much of the time, De Lane Lea becomes its own production community, which makes the spacious café/bar area an important ingredient.

Studio 1 is the headline theatre, where most of the big projects find their final mix, though Studios 2 and 3 are a good size also, and are perfectly able to finalise projects, though are also useful if productions need to 'double stage' or for pre-mixing. The consoles in all three rooms are AMS Neve DFC Geminis. The console in Studio 1 was DFC II spec but has been upgraded to Gemini with double XSP engine giving 1000 paths at 24/96. Studios 2 and 3 have single XSP engines for 500 paths each. Thus, it's no problem moving projects between these three primary rooms. Edit station provision has been increased as well, to accommodate increasing numbers of feeder DAWs and so on.

Studio 1 has been re-arranged somewhat. The wall that separated the rear seating from the operator has been removed, and the console has been moved forward to improve imaging, to make it, according to King, "Feel a lot bigger and more open..." He adds: "Pretty much everyone's happy with it"

Studio 4 is a designed-for-purpose open plan ADR room, capable of catering for reasonable-sized crowd sessions, as well as Foley. This room is mostly the domain of ADR Mixer Peter Gleaves (*Prince of Persia, Harry Potter, Ice Age, The Boat That Rocked*...) and has moved from a heavily customised analogue DDA console plus Pro Tools, to a full D Command ICON system. "Most ADR theatres are really dub stages where people do ADR," says Gleaves. But this is a purpose built one. In America they tend to have

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Mic To Master is a series of two day events on recording techniques, mixing and mastering which are designed to give engineers, producers and all other creative audio enthusiasts an opportunity to learn expert tips and tricks of the trade from recording industry professionals. Each day features 'keynote' lectures addressing specific topics, masterclasses with renowned producers and listening sessions where participants can play their own work and discuss techniques to overcome specific problems. There will also be manufacturer sessions highlighting the latest cutting edge technology, practical demonstrations to show how technology can solve problems and forums where participants can fire questions at producers and manufacturing experts.
The first event, at Deep Blue Sound, will feature guest lecturers Tony Platt, Al Stone, Simon Heyworth and Alan O'Connell, all of whom have a wealth of experience in the professional recording industry as producer and/or engineers and have worked with the likes of Jamiroquai, Mystery Jets, Depeche Mode and AC/DC.
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a control room and a studio area, and there's always that look when they first walk round and an American director walks through the door: 'What, oh, we're all together?'. But it actually works out much better... Usually."

Studio 6 is also mostly used for ADR, though that room is a smaller, booth-based room. It is, though, a good example of the opportunity De Lane Lea's forced down-time gave. Nick Kray, another De Lane Lea ADR Mixer, spends most of his time in Studio 6, and made sure that the upgraded space took into account some client

"It's psychological; if you can see your artist, it takes that boundary away a little bit... We swapped it round, and they put the treatment in around my idea. So now it's perfect... I've had great feedback."

ANDY MUNRO Q&A
ROOM TO BREATHE

We managed to catch up with Acoustic Consultant Andy Munro who was commissioned to bring De Lane Lea's rooms up to scratch…

Paul Mac: Congratulations on a beautifully refurbished and updated De Lane Lea. Could you tell us about the part Munro Acoustics and your Project Management company, Form & Funktion, played in bringing it back from the neighbour's ashes?

Andy Munro: "We had a bunch of measurements from the old room, and we used that as the basis for redesigning the acoustic panelling – especially the diffusing panels, because it was a bit on the dry side before… So we just tweaked it really. We spoke to all the sound mixers as well and got their comments about what they liked or didn't like about the way it was before, so we sort of interpreted their comments about bass and surround speakers and so on to get a good idea.

"When Paul Jarvis [De Lane Lea Technical & Studio Manager] decided to go with the Meyer system after checking it out with the Skywalker people, he just asked if we could incorporate that into our plans. Form & Funktion rebuilt the front wall… so it all came together pretty well in the end actually – it all happened fairly quickly.

"We have to stay well within the Dolby spec, but the old room was a little bit uneven in the bass – we knew that. We selectively increased the amount of bass reverberation to the point where it evened out the sound more, and now it's got a bigger, fatter sound as a result of that. I think the main criticism before was that when you took a mix into one of the big new West End cinemas it sounded bigger, and that is a direct consequence of the reverberation.

"It's a hard one to describe, but when you're listening to lower frequencies, if the reverb time's very short then, even if you set everything up to the correct Dolby level, because of the duration of the sound being shorter, you don't hear it quite as loudly as you do in a big reverb room, even though the sound level might be exactly the same. The reason for that is the way the brain works. It has a certain amount of integration time, and at very low frequencies, that integration time's actually quite long.

"…That was quite an important step really… and then to balance that and stay within the Dolby reference levels and everything, we just increased the low mids and the mids a little bit."

PM: That's where all the new diffusion comes in?

AM: "Yes. And mainly to spread the sound out a bit, because we were pretty sure the comments about the surround speakers the result of direct absorption in the room, so that the surround sound didn't travel, and it didn't blend together… We used the panels to literally deflect energy off the sound. It worked beautifully – they've got a much more even surround now, no matter where you sit…"

PM: You did quite a lot in the rest of the building as well – noticeably more panels and so on.

AM: "Yes – basically the same exercise. What we tried with Theatre 2 as much as possible, was to get the sound to match up to Theatre 1, which is difficult because it's a much smaller room. But I think Paul made the comment to me a day or so ago that the two smaller theatres are very analytical now – you really hear detail… That's kind of what they want in those smaller rooms, be cause they're used more for pre-mixing rather than feature mixing."

PM: Is the new De Lane Lea a result of evolved thinking in acoustics or is it just that things have changed, and it's an opportunity to bring it up to scratch?

AM: "Yes. It's more demanding now. Because everything's gone the whole way now, digitally, the whole business of the sound had come under the microscope a bit, and that's why people are now looking at higher ratings for sound systems, and better quality sound systems as well."

PM: So is it kind of the audio equivalent of HD then, you know what I mean, your make-up artists have got to be even better?

AM: "Yes, basically, same analogy. And people are getting better at it, I think that happens in anything really doesn't it? I know sound's been around for a long time with film, but it hasn't really been around in the full 5.1 AC3 format for so long that people haven't taken a few years to adapt to it, and push the boundaries a bit. Also, there's a new generation of sound mixers now… and they're coming from a different place. When it comes to sound, they've only ever really worked on digital, and so they're used to it, they're used to having everything at 99.9% on the meter. Half of them don't know don't know what a VU meter is – I don't mean that in a cynical way, I just mean they work differently."

INFORMATION

www.munro.co.uk

feedback. Namely, moving operator and client positions to favour line-of-sight to the booth for the client. "It's a lot more comfortable," says Kray. "...It's psychological; if you can see your artist, it takes that boundary away a little bit... We swapped it round, and they put the treatment in around my idea. So now it's perfect... I've had great feedback."

Studio 5 is a smaller mix studio that offers the De Lane Lea team the opportunity to add Focus on low- to medium-budget TV productions that tended to get a little lost in the pre-fire days. It has two local cutting rooms and so creates what Facenfield describes as a 'self-contained unit.': "I think De Lane Lea became known for only being a place that did mid- to high-budget movies," she explained. "So I think lots of people don't even think to pick up the phone and get a quote... They're just convinced that they'll never be able to pay the De Lane Lea rates if they've got a low budget series... It's a great opportunity to have sat down and talked about things, and work out new things that we would try."

> "There's an air of a comprehensive re-boot, looking to a new and exciting future at the forefront of audio post production in the UK."

New And Improved

That's the over-riding atmosphere at the new De Lane Lea. There's an air of a comprehensive re-boot, looking to a new and exciting future at the forefront of audio post production in the UK. After all, there's no reason why the team should not strive to capitalise on the hard work put in since July 10 last year. King: " It will make clients re-look at De Lane Lea, and say 'okay they're back up and open, let's see what's different and changed, let's see what they're doing'.

"So you may also, based on that momentum, attract clients that you might not have been attracting before. That's the idea... to get from this experience as much as we can, and offer as much as possible."

There are a number of Studios in London that can command a core loyal fanbase, but few have such a long-standing brand and shiny reputation as De Lane Lea. This may be the very thing that ensures a new and stronger business for the team.

Facenfield: "So much of what happened at De Lane Lea was repeat business, because people know what they get when they come here, not just from a creative or a technical point of view, but from the standard and level of service they get offered right from the very beginning to the day when they walk away release their film... And I think they miss that." AM

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Shadow Hills Equinox

High-end boutique analogue devices are far from either dead or passé, discovers SIMON TILLBROOK with the Equinox console.

THERE IS AN ENDLESS LIST OF AUDIO DEVICES and software plug-ins that look to emulate the classic sonic tones of past great equipment. Much of this achieves excellent results and, for some, increasingly raises the question of why you would spend large amounts of hard earned cash on esoteric hardware. Well, there are a few who still feel that there is a place for such uncompromising analogue devices, and one such company, Shadow Hills, is out to convince us that high-end boutique style units should still be part of our systems.

Overview

The Shadow Hills Equinox is a recording console all packaged in a weighty 9kg, 2U rack mounted box with a 6.6kg external power supply unit. Within this package, you have two microphone preamplifiers from the Shadow Hills Gama, a 32-channel summing buss utilising all copper buss bars and Holco metal film resisters, and a mastering standard monitor control section with talkback.

The styling of Shadow Hills' devices is straight out of Gotham City, with retro black Bakelite style rotary controls on an engraved black front panel, large solid switches, and green glowing VU meters and function lights.

The weight of the Equinox has a great deal to do with one of its main interesting features, the three output transformer options labelled 'Steel', 'Nickel', and 'Iron'.

> "The styling of Shadow Hills' devices is straight out of Gotham City, with retro black Bakelite style rotary controls on an engraved black front panel..."

The Steel setting uses a custom steel hand-wound transformer that gives a stated 0.75dB boost at 40Hz with a tight Q. This setting is based on a 70's-style API.

Selecting 'Nickel' switches to custom nickel hand-wound transformers with flat low and slightly exaggerated highs at about 10kHz. This setting is described as having the sonic characteristics of an L.A. console… you can make up your own mind as to which.

Finally, the Iron position is based around a Neve 1166 St.Ives Class A design with a flat high-end and 1dB boost at around 110Hz with a broader Q than the Steel setting.

Connection

The rear panel of the Equinox displays the array of connection options. Four Tascam 25-Pin D-Subs receive the output from your DAW channels 1-8, 9-16, 17-24, and 25-32. A further D-Sub feeds up to three pairs of monitor speakers labelled 'A', 'B', and 'C', along with a left and right cue output designed to feed a headphone distribution amplifier, as these outputs are unaffected by monitor speaker volume.

Beneath the D-Sub line, we have left and right XLR inputs for an external source, XLR input and output for each of the two mic preamps, and a pair of XLR outputs from the summing buss. There is also a 1/16-inch phono jack that allows you to connect a remote momentary switch for the built-in talkback microphone.

On the front of the unit are direct inputs to each of the two preamps via jack sockets. ▸

THE REVIEWER

SIMON TILLBROOK is the Principal Music Tutor at Islington Music Workshop in London. The rest of his time is spent as a freelance engineer, mainly in the USA.

Front Panel

Looking at the fabulous and heavily populated front panel of the Equinox from the left, we are first greeted with one of the glowing eye-style VU meters sitting next to a large 24-notched position monitor speaker level rotary control.

Each of the two-preamplifier channels of the Equinox has an identical set of controls alongside each other, separated by a red Dim light that illuminates to show that monitor levels have been dimmed when talkback is engaged.

A phantom power switch sits next to the input gain rotary control. This is a 24-position pot like the monitor level, but considerably smaller. Above this is the direct input jack socket flanked by pad and phase reverse switches. The latter works with the direct and microphone inputs.

Completing the preamp sections is a very robust, three-position switch to select the output transformer option of choice alongside lights indicating the selection labelled 'Nickel', 'Iron', and 'Steel'.

The final section of the Shadow Hills Equinox front panel provides monitor speaker dim, mono/stereo, and talkback microphone switches. The Talkback switch is momentary and activates the built-in talkback microphone in the top right corner of the unit.

The second VU meter, a rotary monitor speaker selection switch, and a large input select rotary with four positions complete the picture.

Input Selection

By looking more closely at the Equinox input selector you can get a clear idea of how the Equinox can be used.

The first position is DAW 1+2 and is designed to monitor your main DAW stereo output and utilise the onboard microphone preamps for overdubbing purposes.

The two preamp channels and associated functions all work independently of each other.

The second input option is labelled 'Mix 3-32' and, in this mode, the feeds to your DAW D-Subs are summed. The overall level of the left and right summed signals can be independently trimmed with the preamp gain controls, but output transformer selection for both channels is controlled from channel one's selector. The other function switches: Phantom power, pad, and phase reverse are deactivated.

Position three has the legend 'External Input'. In this set-up, the monitor speakers are fed from the external input XLR connectors, and the summing buss and outputs are still active.

This is designed primarily to monitor your chosen two-track device.

The final position is Microphone Preamplifier, and this position monitors the output of the two pre-amp channels in the monitor speakers. XLR and jack sockets, along with all functions, are active and independent.

Use

So a recording console in a 2U rack mounted unit? I had my doubts I must say, but in getting to know the Shadow Hills Equinox you really appreciate the uncompromising quality and attention to detail. The rotary controls all feel very precise with their notched travel, and the switches have a very reassuring clunk when placed in the appropriate position. All legends are clear with good feedback

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of status from all the lights and meters across the front panel.

With the variety of well distributed connections, configuring the setup meant that no swapping of cables would be required when using the Equinox across a wide range of designed uses.

It is very easy to see why so much praise has been heaped on the Gama pre-amps before when you start to hear the wonderful sonic results that can be achieved with them. The flexibility offered from the transformer choices gives you a number of textures to your sound right at the source.

The Iron setting is very much akin to the Neve 1166. The Class A output gives pleasing transparent results. This is the subtlest of the settings on the Equinox.

The Steel setting brings a deep punchy sound with a sense of thickness. Warm and fat, but still nicely bright without any brittle edges. This is a setting that really reminds you of the depth you get from UA and API type preamps. It claims to reflect 70s preamps, and achieves that with a little extra.

The Nickel position has close links to the Steel setting, but has a much softer, smoother feel to the sonic quality, with a very nice sparkle to the highs.

I used the Shadow Hills Equinox for a number of overdubbing scenarios, feeding the monitors from DAW outputs one and two in combination with the preamps. It was really nice to have the talkback available on the Equinox itself. This felt just like normal console operation and workflow. I used a standard sustain pedal plugged into the rear of the Equinox for talkback operation, and it all worked perfectly.

Most of the summing units I have used to date offer sixteen channels of summing, so for a larger mix scenario two are often needed.

The Shadow Hills Equinox gives us the increased track count, and Shadow Hills has clearly thought about the sonic issues when it comes to summing a larger number of audio signals. The quality of the summing is stunning. Of all the examples I put through the Equinox, I only ever ended up loving the results. You have to also remember that you have three output transformer options to choose from, giving you a wide sonic pallet.

By assigning your DAW channel outputs to feed both individual and main outputs one and two, you can use the input selector on the Shadow Hills Equinox to monitor unsummed and summed signals.

I then used the external connections to insert an external buss compressor, so now I was able to select a summed with processing option as well.

The more I used the Shadow Hills Equinox the more convinced I became that real console function could fit in 2U.

You can also look at the Shadow Hills Equinox as a serious monitor controller. The claim is that the Equinox is a mastering quality monitor controller, and I would not dispute that. Monitors I have used and know well stepped up a notch when fed via the Shadow Hills Equinox. I connected my two monitor options to two of the speaker feeds and enjoyed the ease of use and precise sound delivery to them.

Conclusion

The Shadow Hills Equinox looks amazing and delivers stunning flexibility and sonic results. The no compromise approach to the design and construction of the Equinox is evident in every application you use it with.

The array of sound possibilities offered by the three output transformer options means that for most people, the Shadow Hills Equinox is a unit that is going to see heavy session by session use.

The Shadow Hills Equinox will transform any DAW setup. I think Shadow Hills has made quite a case with the Equinox for high-end hardware as part of your system, giving you real console function and feel.

INFORMATION

£ GB£2,800.00 (exc.VAT)

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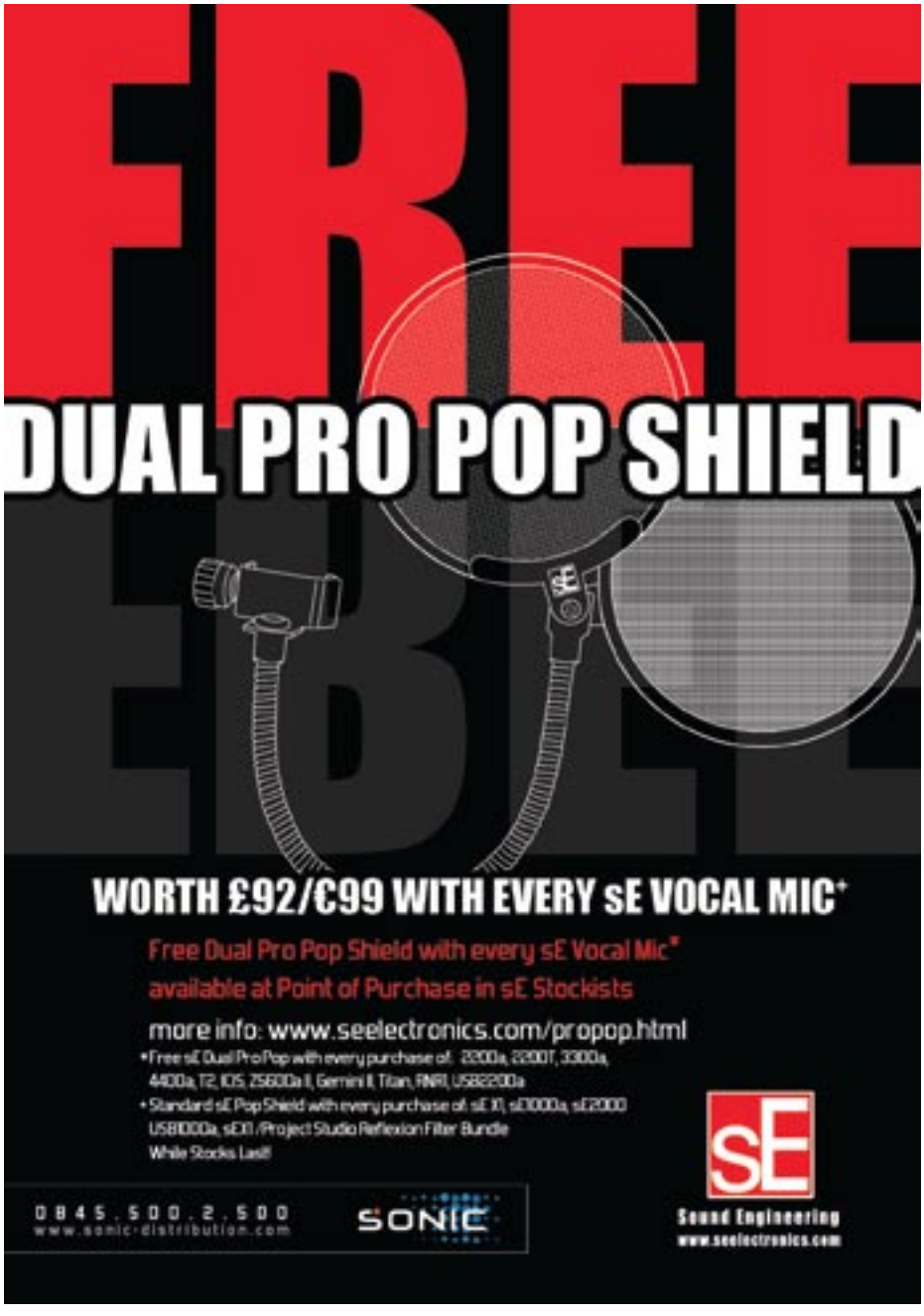
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JO FLETCHER-CROSS visits Videohouse, Belgium, for a preview of the latest and greatest in HD truck provision, complete with high-spec audio facilities.

Driving VRT

Full-Spec HD OB For Belgium

IN A WAREHOUSE-LIKE SPACE at the headquarters of Amptec, in Diepenbeek, Belgium, Videohouse is building two new outside broadcast trucks.

As we step into the room, I'm stopped in my tracks by the trucks – they are quite simply enormous. HD02 is slightly smaller, and isn't finished yet, but it is still a very large beast. The HD01 is something else altogether. Dotted with people putting together the finishing touches, it stands there gleaming like a monument to outside broadcasting. It's an enormous, shiny truck that wouldn't look out of place on a Hollywood film lot, with a starlet emerging from the frosted doors as her entourage fuss around her, making sure she's standing in the best of the glowing lights at the entrance.

Videohouse has plenty of experience at building OB units. The company, created in 1980 by Ludo Maes, Marc Robberechts, and Wim Robberechts, is a big name in the European television facilities world. A member of the Euro Media Group, formed from the 2007 merger of United Broadcast Facilities and Euro Media Television, Videohouse built its first outside broadcast unit, OB1, in 1988. Eddy Brants, the designer of the new trucks, is a seasoned professional, having also designed the OB4, OB6, OB7, OB8, and OB10 units for Videohouse, as well as the OBV 14 and OBV 15 for Cinevideo and OB8 for United.

Trucking Destiny

These trucks are destined for Vlammse Radio en Televisieomroep (VRT), the publicly funded Flemish radio and television broadcaster in Belgium. Flemish speakers account for 60 percent of the Belgian population of 10.5 million, and VRT is the market leader, with a daily audience market share, in 2008, of 31.7 percent. As well as seven analogue and digital radio channels, and seven digital-only radio channels, the broadcaster has three main current television channels, an HD channel, and three channels for additional content through digital cable. een – Flemish for one – is the main channel and focuses mainly on news and current affairs, as well as entertainment and culture. Canvas is billed as the quality television channel, and Ketnet is the children's channel. There is also Ketnet K'tje, aimed at younger channel. een+, Ketnet+ and Canvas+ provide additional viewers, and een HD has been broadcasting since the 2008 Summer Olympics on most cable and satellite services throughout Flanders and the Netherlands.

We climb up the steel steps to the HD01, pausing in the snazzy entrance to examine the softly glowing lights in the floor before opening the glossy green door to reveal what must be the funkiest truck in Belgium. Before even looking at the equipment, I'm impressed by the mood lighting and the very cool strips of colour all over the ceiling – it looks a bit like a space ship fitted out by Habitat rather than the interior of a truck. The whole truck is colour co-ordinated with these stripes; accents of lime-green, pink, and orange showing up everywhere. It looks great, but it's not just a pretty truck as Dany Meeuwissen from Internal Sales at Amptec, who is showing me round, is keen to stress. "It doesn't just look good," says Dany, as he ushers me into the heart of the van. "It sounds good too."

With all this equipment, acoustic treatment is an important consideration, and Eddy Brants feels he has got it under control. "VRT has chosen a good acoustical environment. I'm trying to isolate the noisy hardware and to absorb the maximum noise. The isolation is done with special 30dB multiplex, and the latest measurements are NR 25 in the audio control booth."

Since my visit, the trucks have been completed, and having now left the building are out on the road for VRT recording live music, sport, and anything else the broadcaster can throw at them. The smart design and top-specification kit should make them a pleasure to work in, as well as delivering the highest quality broadcast. "If Belgium ever wins the Eurovision song contest, this truck is able to run the show!" enthused Brants.

Zone Tone

Monitoring is almost completely provided by Adam, a natural choice for Brants who has installed Adam speakers into his previous truck designs for Videohouse and Cinevideo. The main monitoring is done with three Adam S3XH, one SUB10, and two S1X (surrounds), plus two Avantone Mixcubes. In the production area, there is a surround set from Adam with five S1X with a SUB7, and in the secondary production area there is an S1X stereo pair for the Director. Some more are studded around the truck – including some cleverly integrated into the ceiling by way of a bit of ingenuous sawing and adjusting.

Grant is just as pleased with the installation of the Adam monitoring in this truck as in his other designs. "They sound very natural and equal in the different zones of the OB truck," he explained. There are a few non-Adam speakers in the truck. The alternative speakers are the Avantone Mixcubes; these are shielded, full-range studio mini-reference monitors, designed to be an updated version of the 5C Sound Cube. "We also have four Fostex's in the ceiling," said Grant. "You can use them for PFL or for intercom – it's better when those kind of signals don't come from the same direction as your main speakers."

I wonder about the additional challenges of surround monitoring into a truck. "For the sound area, it is not that difficult. You can put your speakers in a correct way so that the Sound Supervisor can sit in the sweet spot. In the production area, though, it will only be the Director who will sit in the sweet spot. The rest of the people in the production area will not be able to listen to good surround." What about separation and coherence at the sub-mix positions? "We've chosen to keep this area separate from the rest of the second production area. It is not the ideal place to mix big surround projects, but for smaller programmes it will do."

Full Service

Everyone seems very excited about the Riedel intercom in the trucks, the first Riedel MediorNets to be sold in Europe. The system is a fibre signal carrier for multi-channel HD/SD video, audio, intercom, and data, and is designed to operate with a range of different network configurations, using integrated coarse wavelength-division multiplexing (CWDM) and uncompressed real-time signal distribution and routing. The system, installed to provide a means of interconnection using just two fibre links that would carry all the intercom and lines needed for big OB productions over long cable runs, consists of the Riedel intercom, Ghielmetti patches, Eurocable audio cable, and FibreCo Fibrecast Senior optical cabling to connect stageboxes to the OB van.

There are three mixing positions in the truck. The main desk is a desktop version of the Stagetec Aurus/Nexus 72 fader console. Meeuwissen tells me that the Aurus was modified for the project. "It was constructed as a large console within a small frame in order to save space, while still being able to cope with complex productions with a lot of audio signals." A total of 64 faders were accommodated on a 48-fader frame, with two fader panels being installed on the second console level in addi-

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tion to the standard 48 faders. This results in an increased number of channels accessible directly. "They are mainly used for playing back pre-recorded sound," said Meeuwissen.

The other mixing positions use a Yamaha DM1000 submixer and a Lawo Z4 assistant mixer. Stagetec has come up with a special control solution that allows the Yamaha digital desk to control the Nexus digital microphone input's gain settings directly.

The truck has an impressive array of some rather boutique outboard equipment nestled into its control space. Two Empirical Labs EL8-X Distressors; Avalon AD2044 dual mono-stereo Opto-Compressor; TC 6000 and the TC 4000, The Lexicon PCM96 and TC DBMax, a level maximiser, and audio enhancement processor. Quite a list considering the capabilities of the main desk. "The dynamics of the Stagetec are good," explained Brants. "But it is always good to have some extra dynamics in outboard. For music, this is necessary." The VRT team were closely involved in the selection of the equipment. "The group of sound supervisors who will work in the trucks have decided on the outboard," said Brants. Microphones and wireless equipment will come from VRT stock.

A Waves MaxxBCL is also present. This provides brick-wall limiting for unpredictable live music situations; can be used for live music feeds over ISDN, delivering a 'well-mannered' signal to the codec; and for live reports, will stabilise uneven recordings and provide an even sound to varying levels coming in from the field. AM

INFORMATION

Videohouse
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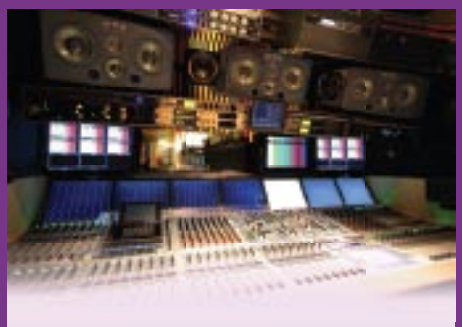

ON THE ROAD

Fernand Holtof, the Technical Director at VRT, talked to me about the variety of ways the new HD01 truck is now being put through its paces by the broadcaster. "It was used for 'De Ronde van Vlaanderen; Omloop Het Nieuwsblad; Gent-Wevelgem; and Brabantse Pijl, which are traditional Flemish bike races. Also some Europa League and Belgian Cup football games." It has not just been used for sport, having also been employed in the broadcast of classical concerts from the Palais dex Beaux Arts, Brussels. "Most of these events used the main and submixing desks," said Holtof. The truck is lined up for quite a few more tasks. "In the future we plan to use the car for more sports events such as football and bike racing, but also for Saturday live shows – using the main mixing desk only; some religious celebrations; during winter time at the Cyclo-Cross Games; and the main election programmes.

Holtof explained how and why the equipment in the truck was chosen by the team at VRT. "The Adam monitors were selected by an audio panel, with eight audio engineers, during an elaborate test with the most common professional speakers in all sorts of conditions with all sorts of music and speech. All our sound engineers are very pleased with them.

"Other gear was selected because we were used to working with it – like the Stagetec; or because after tests they seemed to be the best and most advanced choice – like Mediornet and Riedel."

Although fond of the older trucks at VRT, the VRT engineers' working environment has now improved. "Although our older trucks were 16 and 18 years old, thanks to many upgrades they were still in good shape," said Holtof. "But of course the new vans give a lot more working space, are much more versatile, and most of the time also more reliable."

Holtof tells me a little about VRT's approach to mixing music events for broadcast. "Shows go mostly live. We use our own stage mix engineer and our own PA engineer– they are all colleagues, and the broadcast mixer has the last word. There's constant communication between the three over the intercom after each song." For events such as a large concert with its own engineers and audio mix, Holtof explains how VRT goes about broadcasting in the highest possible quality. "When we capture a show where we have no say over monitoring or PA, we take all the separate inputs after a passive or active splitter and make our own mix. When we are recording we use a Pro Tools multi-track. When we go live, we try to be as prepared as possible by using our Stagetec library with all major adjustments per instrument."

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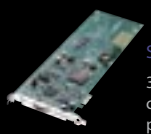

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FIRST WE LISTEN

Solid State Logic X-Patch

The X-Patch routing system from SSL offers far more than SIMON TILLBROOK ever expected to find.

DIGITALLY CONTROLLED ANALOGUE PATCHING is something I have seen attempted a few times in the past with little real impact. I guess this was before the widespread adoption of DAW systems, so many would have wondered why it would be needed, but, with DAW setups so entrenched in today's audio production, the ability to integrate some outboard analogue processing has real appeal.

I have been a user of the SSL Matrix for some time now and the integration of a digitally controlled analogue patching system for inserting outboard processing has become a much loved feature.

Solid State Logic has now taken this patching concept, expanded on it, and packaged it in the form of the SSL X-Patch so that this integration of external sources can be utilised by a wide variety of users.

Overview

The SSL X-Patch is a single unit rack mount 16x16 digitally controlled analogue routing system that is configured over Ethernet using the X-Patch Remote software.

Up to six units can be seen and independently manipulated from a single remote terminal. Up to 128 configurations can be stored and recalled using standard MIDI program change from any MIDI controller.

On the rear of the X-Patch, we find two Tascam 25-pin D-Subs for input and another pair for the outputs. Alongside the Ethernet network connection are MIDI In and Thru connectors, as well as a socket for the external power supply.

The front panel has a pair of XLR/TRS combi input sockets and a pair of output XLRs, which are paralleled with inputs/outputs 1 and 2 on the rear D-Subs. When in use, the front connections automatically override the rear. The front panel also auto detects when an instrument is plugged in.

> "...with DAW setups so entrenched in today's audio production, the ability to integrate some outboard analogue processing has real appeal."

Software Setup & Use

It is the Remote software where setup, configuration, and control of the X-Patch occur. The initial network setup is well described in the user guide. Each X-Patch (if you have more than one) is identified by its unique IP address and then configured and controlled from the Remote software.

It is when you come to set up your I/O that the differences with the SSL Matrix become clear.

With the Matrix, all inputs and outputs are configured as sends and returns for inserting into session channels, but, with the X-Patch, inputs and outputs can be configured as independent signals.

The first thing you need to do is set up these inputs and outputs and this can be accessed from the main Remote software page above the patch selection grid. Top to bottom, you have a list of the sixteen available channels: the inputs on the left labelled 'Source', and outputs on the far right labelled 'Destination'. Each input and output can be named as desired and individually switched between +4dBu and -10dBu.

There are then three selectable options to define the relationship with the Source and its numerically related Destination. These options are Unlinked, Device, and Insert.

The Insert option on the SSL X-Patch operates just as you would expect. The input and corresponding output are set as channel send and return, just like with the SSL Matrix.

When Unlinked is selected, the Source and numeric equivalent Destination are totally independent and unrelated to one another. Some of the units you may use only have an input or output and so can be integrated here.

The Device setting is used when you have a single unit with input and output that usually work together.

Once you have defined your array of devices in the setup window, you return to the main window to control ►

THE REVIEWER

SIMON TILLBROOK is the Principal Music Tutor at Islington Music Workshop in London. The rest of his time is spent as a freelance engineer, mainly in the USA.

the various routing options of your X-Patch.

The centre of the window shows your connection point options labelled as you set them, with drop down selection of the appropriate processor. Any that are already in use are greyed out within the selection list.

You can create a patch setup and then save as a preset. The list of saved presets is shown in a list to the right of your patch grid.

One feature I see a lot of use with is the chain editor. You can create a patch chain of devices that you find you use on a regular basis – a vocal or guitar process chain, for example. Along the bottom of the Remote window is a visual representation of the units in your chain in signal flow order. You can create and then store chains of processors as you desire, and the list of chains created is to the left of your main grid display.

"As a patching system for your DAW setup, the SSL X-Patch is well thought out and offers simple, clean sounding, point to point connection..."

As a patching system for your DAW setup, the SSL X-Patch is well thought out and offers simple, clean sounding, point to point connection from the clear and easily used graphic interface on the supplied Remote software.

Integration and matching of +4dBu and -10dBu equipment is particularly useful when using the unit as a synth or guitar processor editor. This opens up the possible applications of the X-Patch beyond simple studio use.

A session guitar friend has an SSL X-Patch at the centre of their setup for selection of process configurations. The guitar feeds into the front input, and they can then select through a series of preset setups of their dynamic and effect processors and amplifiers using MIDI program change via a standard MIDI controller pedal board.

Conclusion

The SSL X-Patch had far more about it than I expected. Others who are familiar with the patching concept from the SSL Matrix need to be clear that the X-Patch offers a far greater number of patching options. This is much more like traditional patching.

It is not just studio users, but also instrumentalists who will enjoy what the unit offers, with the inclusion of MIDI switching.

The SSL X-Patch offers a clean sounding, neat solution to a variety of patching scenarios both traditional, and beyond.

INFORMATION

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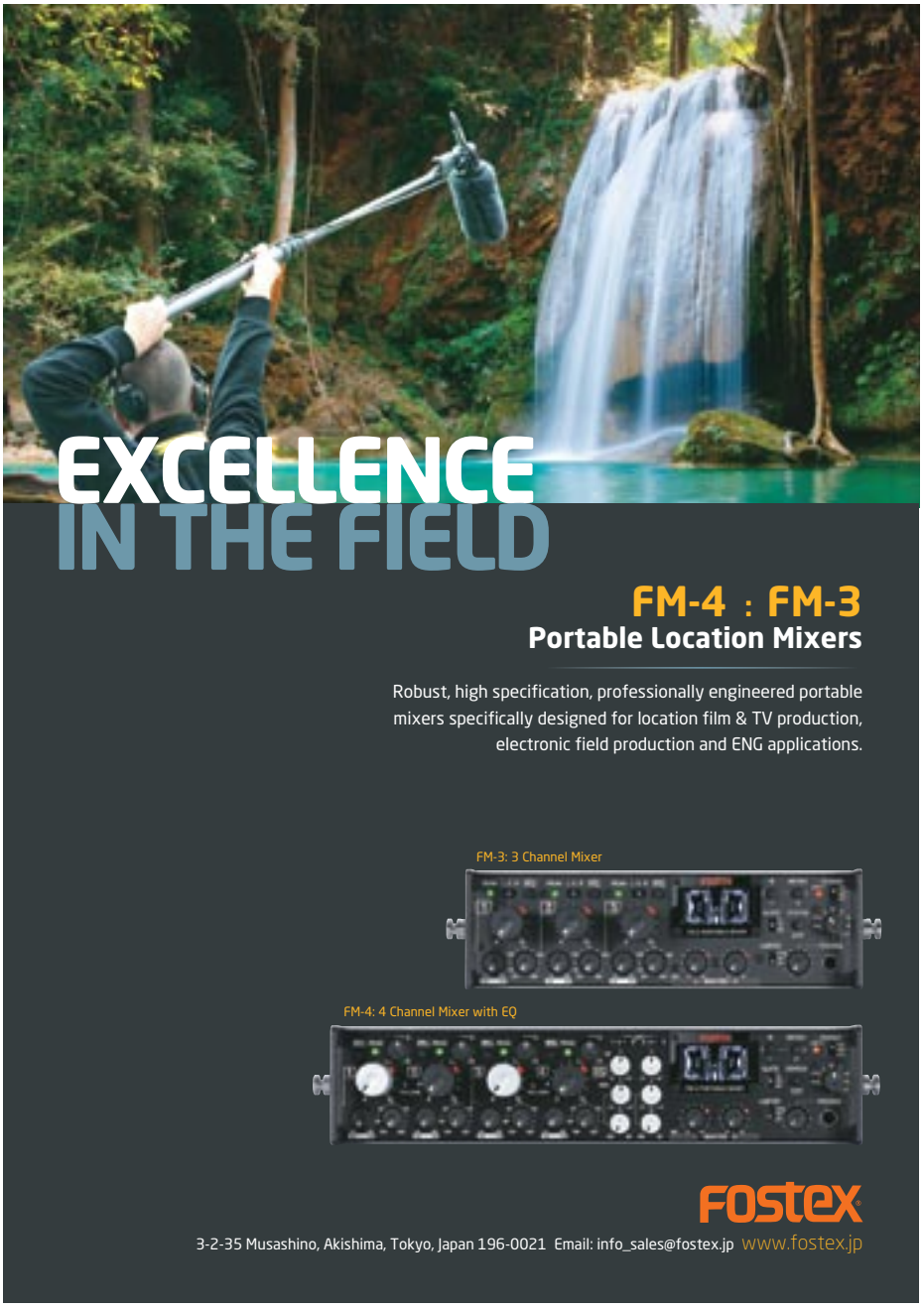
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RESISTANCE IS NOT FUTILE

The live sound crew behind Muse often refers to the band's tours as 'campaigns', and the term is no accident, finds CLIVE YOUNG. Regardless of whether you associate the word with elections or war, either one is apt because this is a band that clearly aims to take over America.

THOUGH MASSIVE OVERSEAS, for years the UK-based trio collectively known as 'Muse' was relegated to cult status in the US. Since the release of The Resistance last August, however, those fortunes have changed dramatically. Muse has aggressively gone after the US market, opening for U2's stadium tour, playing tons of radio festivals, appearing on *Saturday Night Live* and MTV's Video Music Awards, and more.

Campaigning the US

Following a series of winter tour legs across Europe, Australia, and Asia, the band is back stumping on the U.S. campaign trail, performing nightly to 360-degree, sold-out arenas. With the help of UK-based Skan PA Hire, the band delivers its epic sci-fi rock (think Ultravox meets T. Rex) with nothing less than gleaming bombast.

Literally tons of technology is being brought to bear on the production, which includes stage lifts, lasers, and dozens of video screens, but the heart of the audio system is a decidedly analogue Midas XL-4 desk overseen by the band's longtime FOH Engineer, Marc Carolan.

"I'm not one of those die-hard, 'it can only be analogue' guys; I'm a believer in using the right tool for the job, and the sonics of Muse lend themselves to the sound of the XL-4," he explained. "The show is quite scene-intensive, with a lot of moods and changes, so we've got all the effects MIDI'd up; from a recall point of view, it can do pretty much anything that a digital board can do, within certain parameters. So the choice is a sonic one – and it was supported by the band as well. The guys are quite technically aware, and they know it works for them."

Racks of outboard gear sit adjacent to the desk, filled with various units including Bricasti M7s ("Reverb is nothing I get excited about per se, but I think they sound great"); a Line 6 Echo Pro for different flavours of delay; Eventide H3000s for vocal doubling and pitch work; and a pair of Yamaha SPX2000s, with one tackling snare reverbs while the other shoulders various effect moments. For compression, the vocal chains roll from Empirical Labs Distressors into BSS DPR-901s, while the bass and guitar are all Tube-Tech LCA-2Bs feeding more Distressors. Drums get the benefit of dbx 160s for kick and snare, while gating is handled by Drawmer and XTA G2s. Also on hand is an SPL Transient Designer, used slightly on kick, snare, and toms.

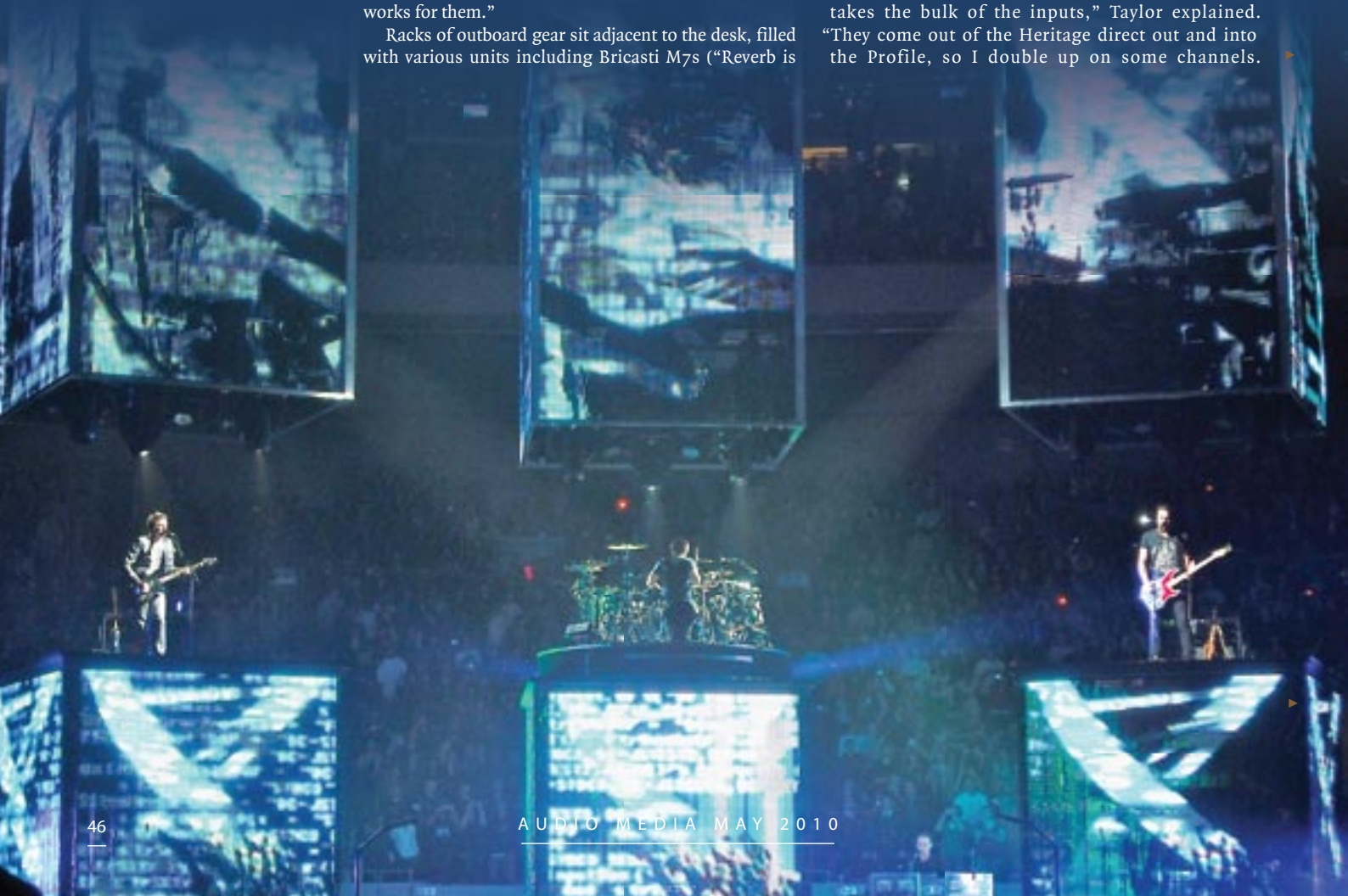
"I'm also using Kush Audio's UBK mod of Empirical Labs' Fatso, which cuts out dynamic high-end control," said Carolan. "On the regular Fatso, it was kind of like tape emulation, but on the mod, they've brought the frequency of that down, so when Dominic [Howard] is laying into the cymbals a bit harder, it calms that aggression without taking it away."

Not All In The Effects

Despite all the outboard units, as Carolan pointed out, Muse isn't necessarily an effects-heavy band: "It's quite a layered, dense sound in places, so there's a few moments with a lot of effects, but it's in service of the music, as opposed to just a gimmick."

Over at stageside, hidden under a small riser, sits the monitor position, where Adam Taylor looks after mixes for the band, multi-instrumentalist Morgan Nicholls, and backline crew. Providing those mixes are both Midas Heritage 3000 and Avid Venue Profile consoles.

"The analogue desk is there for the sound, and it takes the bulk of the inputs," Taylor explained. "They come out of the Heritage direct out and into the Profile, so I double up on some channels.



It's just for automation; I use the Profile for the automated side of things, so it takes all the electronic inputs and also does all my effects through plug-ins. I've not got anything fancy – the Sonnox Oxford Dynamics and EQ, the standard ReVibe reverb, Smack! compressors, gates; all standard stuff already on there, really."

The band and backline crew wear Sennheiser G3 wireless systems ("they're working really well for us") connected to Westone UM2 ear buds, though a transition to Ultimate Ears is underway. Still, thunderous bands tend to like 'feeling it' onstage, and Muse is no exception; as a result, d&b audiotechnik J subs sit near the drumkit and bass, in addition to one strapped under a stage lift, shooting up through a grate for bassist Christopher Wolstenholme.

Carrying so much gear around the world, it's no surprise that portability would be high on the crew's list of priorities, particularly since Muse's heavy tour schedule doesn't allow for much slack. "In Europe during the fall, sometimes we were physically turning up at the venue at 2pm in the afternoon!" recalled System Engineer/Crew Chief Paddy Hocken.

More Speed!

Key to speedy audio assembly, then, is a series of tall, custom carts for the sizable d&b audiotechnik PA. Based around 112 J8 and J12 line-array boxes, and 96 D12 amplifiers, the entire audio system rolls snuggly into two-and-a-half US trucks. In addition to being able to carry four array boxes at a time, often with the bumper pre-attached, most of the carts haul the PA cabling, which simply coils onto bridges – collapsible, six-inch sides atop the carts – for transport. "Rather than having multiple flight cases for all of this," said Hocken, "it's all pre-cabled and lives in a rack. With the amps, you never have to patch rack to rack, never have to plug speaker feeds – it's already done every day."

With an audience seated 360 degrees around the stage and so many video screens that are integral to the performance, it's a daily struggle to avoid blocking sightlines. "We have to achieve coverage in as few hangs as possible, so everything is on the edge of its dispersion, maximising what each cabinet can do. The J8 has 80 degrees dispersion, so most of the hangs are 14 J8s with four J12s at the bottom, but behind the stage is predominately J12 for the wider spread, because you're so close and you need to splay it."

No Matter What

In order to keep the show running no matter what, a safety plan was worked into the PA's drive system, according to Hocken: "We have a Massenburg GML 8200 parametric EQ and Smart Research Smart C2 inserted over stage left and right hangs. We then go from the XL-4 to an Apogee Rosetta 800 to do the A/D conversion, which feeds into a Dolby Lake that we use as the main system EQ. The signal goes to stage as AES 96kHz direct to the D12 amplifiers, and we also run a wireless R1 network using remote desktop with two d&b R60s. We have a fully redundant Dolby Lake and Apogee Rosetta 800 as well as a second AES multi-core, and the D12s are also wired with analogue inputs in the event of AES/EBU failure."

Miking on stage takes the form of mostly Shure and Neumann microphones, though a Royer R-122L can be found on singer Matthew Bellamy's guitar and a beyer M88 provides the bass' clean channel. On the drums, a Shure Beta91 and another M88 capture the kick, while a SM57 and a Neumann KMS 105 vocal mic nab the snare top and bottom, respectively. An AKG C 451 B grabs the hi-hats, SM98s take in the toms and gong, other cymbals are picked up by Neumann KM 185s, and Sennheiser MD 421s catch the tympani used on Exogenesis, Part 1.

All Heart

Across the stage, Bellamy's hearty vocals are captured by Neumann KMS 104s or 105s, depending on the onstage position. "I like the sound of them, and also Matt can be quite a mic-dodger at times," Carolan pointed out. "You've got to work with the off-axis, and it deals with that really well. People will say it's a more open mic, but I can deal with that because it gives you more natural-sounding spill."

All those microphones get a good workout nightly, and will for some time to come as this summer finds the band taking a victory lap through Europe's stadiums and festivals like Glastonbury. After that, none of the crew is quite sure what will happen, but odds are it will involve more touring. "These campaigns are always quite long," laughed Carolan. "The previous one, we were out for 26 months. It's not a bad thing: They like to work!" AM

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On The Rack Outboard Round Table

With the plethora of plug-ins available and built in FX loaded into the digital consoles of today, do live engineers still feel that outboard is necessary? If so, what do they still carry and why do they carry it? PAUL WATSON spoke to four top FOH engineers to find out…

Gert Sanner: FOH Engineer for Deep Purple

What outboard do you have on tour with you at the moment?
I have everything I need built into my desk, so all I ever carry is an iPod! I use it just for the intro music and the outro music at each show; I play about 30 seconds of music at the start and then a Roger Glover [bassist, Deep Purple] at the end. That's it!

Why do you think it's still necessary then for some engineers to carry external processing with them on the road?
I think it totally depends. Some artists are quite particular and want to recreate what they did on an album and quite often they want to use the same gear. For example, I know that Tori Amos does that. Her husband [and FOH engineer, Mark Hawley] uses exactly what he used in the studio for live work. Then Big Mick [Hughes, Metallica] does the same thing; he has a few bits and pieces in his rack that were used in recording sessions because there's no other unit that does the job.

But you're happy enough without?
Yes, because all of the onboard processing is excellent and easily accessible on the Vi6. I think it's fair enough to do it when you try to recreate something from an original recording, but as far as compressors, gates and FX are concerned, I don't think it's worth it because of the AD conversion you introduce. It can cause latency issues within the buss structure, and I don't think you gain anything from that.

On the flip side, an engineer never wants to lose all of his comfort features. I never want to change more than one thing at a time, so if I had a new band, I probably would only take equipment I knew very well, yet if I know the band very well – as of course I do with Deep Purple – then I am quite willing to check out some new equipment. Looking at it this way, I can see how some engineers might think along those lines and maybe take their favourite rack compressor with them to a show because they know it works really well for a vocal, but quite often you find that after people do that on a few weeks of a tour, they start phasing the gear out.

Alain Courieux: FOH Engineer for Jean-Michel Jarre

So what's your set-up and what outboard do you use at the moment?
I use the SD7 with the new software and my outboard consists only of a Lexicon 960 reverb and a Yamaha DME64 for the delay; I need four stereo delays and there aren't quite enough within the console which is why I carry the DME64. The effects built into the SD7 are of a very high standard though and in my opinion it is one of the only digital consoles that actually sounds like an analogue one. For this type of show, I use so many compressors and noise gates that there wouldn't be space for all the racks I would need.

So the delay is due to lack of space within the console FX? What about the reverb unit?
I am just such a big fan of the Lexicon that I have to have that on a gig. It is so reliable and just so good; that is just my personal preference. If I had a vocalist – which obviously I don't because Jean-Michel's performances are fully instrumental – then I would definitely carry a very high end compressor and a top quality pre-amp…

Jon Sword: FOH Engineer for The Feeling

What outboard do you carry?
I don't carry any outboard at all. The whole digital thing works on layers. Let's take a Vi6: you've got 32 channels – that's one layer – and at the push of a button, the console will bring up another layer, which is another 32 channels, so there's a lot of changing of scenes to be concentrating on. Because I've got all the FX I could ever need built into the console, it eliminates the need for a load of external outboard. It also allows me to focus my entire attention on the work surface of my console without having to keep glancing to my left or my right to adjust settings on individual rack units.

I am also at an advantage because I use the same desk very regularly with the same band [The Feeling] and because I have worked with that band for such a long time, I know their set inside out and know what's needed during each song in each show. I am able to store all my FX settings for everything so when it comes to the show, I can enjoy mixing it and concentrate on getting the best sound. I mix very 'hands-on'; it's like playing an instrument to me, so it's important that I can give it my full attention.

And why do you think some engineers using digital boards still feel the need for outboard?
Well, a lot of engineers have to use different equipment every single day as they work with a number of different acts and don't have the luxury of owning their own mixing console. I have had to do the same in the past, of course, using different PAs, different desks and different outboard.
If, for example, you were working with a band that required a certain special sound or maybe you had certain trusted toys of your own that you felt comfortable using, then you should definitely carry your own outboard. That way, you're always in your comfort zone, which is very important to a live engineer.

Patrick Demoustier: FOH Engineer for Night of The Proms, Simple Minds, and Kane (popular Dutch rock band)

What's your opinion on plug-ins for live work, and how many do you use?
I am not really a big fan of plug-ins; I like the real things. There are some good ones on the market, but I still think the platforms we are running them on are not as good as we could have, given the advances in digital technology.

So what's the most important piece of kit in your outboard rack at the moment?
For vocals I always use a Manley VoxBox; it is outstanding. Not only does it have a great pre-amp, compressor, and EQ, but what makes it so stand-out is its frequency-dependent compressor.

For live sound, this is a huge advantage. You can compress only the 2-3k regions in the vocal through the PA, so when you mix loud, instead of the compressor becoming more aggressive, the more you compress, the softer it gets – and your voice is still where you want it to be in the mix. I recommend the VoxBox to every engineer when they tell me they have some kind of problem with their live vocal results – and when they try one, they always buy one!

For me it is the right tool for vocals and I cannot do it without it. Even if I were to use a Neve unit with the very best compression, I think although it may be an extremely good compressor in the studio, for live work, having the frequency-dependent compressor makes it so easy to mix. Since I first tested the VoxBox, I have used it on every single show.

What about on the instruments? Are there any other essential tools you carry?
Yes. On the mix, I use the Manley Massive Passive EQ and I have a Crane Song compressor behind them because it has an extra feature; it is an analogue compressor limiter but it also has a bit of brains about it, so if you were to come across a smaller PA system or if you were in a situation where you have DB limits where there is a maximum level that you cannot exceed, then you are able to set the limiter to that level. The limiter will say to the compressor 'help me to put a recall on the mix and start compressing a little more softly so that we can avoid limiting hard', so in the mix you don't even notice a limiter is working.
This Crane Song is not something I see a lot when I'm on the road, but I always use it to mix because the results are so fantastic.

So, as good as digital consoles are, you still find that you need that external equipment to get the best results?
Yes, especially because I like to do things before I go into the desk. I run an analogue line into the VoxBox, then after processing it analogue, I go into the desk. I do the same thing for anything with a lot of dynamics, such as the kick, the snare, the hi-hats, and the bass guitar. I use analogue pre-amp EQ, then I go into the compressor and then I go into the digital console.

So digital is actually the third link a lot of the time? How much of the mix can you afford to input directly to the console, eliminating the analogue chain?
Quite a lot. In fact, everything that doesn't have so many dynamics: guitars, toms, backing vocals, and keyboards. Things like that I can leave, but still the AD conversion is the most difficult thing.

But you're happy with the console FX when it comes to the reverbs and delays?
Yes, I am very happy. I own a Lexicon 960, which to me is the best reverb in the world, but I don't need to tour it any longer…
The Lexicon is also heavy and 5U high as well as being quite fragile, so on all the shows I use the FX on the consoles for practicality reasons. To be honest, I think the FX are getting pretty close to the quality of the Lexicon now. Ultimately, FX is all about processing power and these days they have a lot of that, so they are very well equipped do the job.

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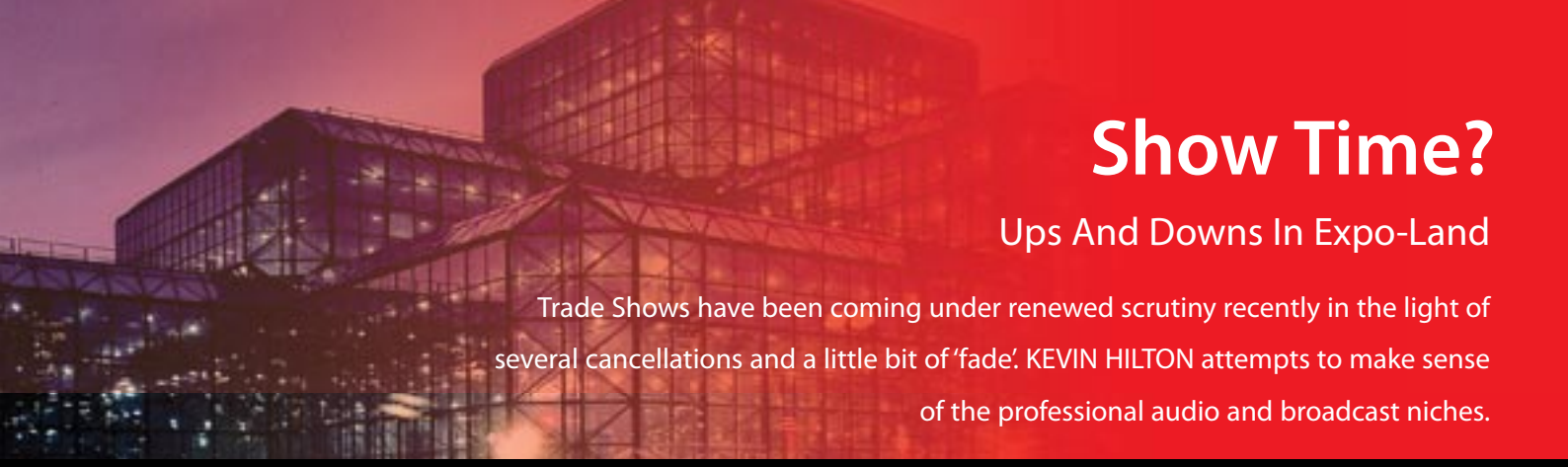

Show Time?

Ups And Downs In Expo-Land

Trade Shows have been coming under renewed scrutiny recently in the light of several cancellations and a little bit of 'fade'. KEVIN HILTON attempts to make sense of the professional audio and broadcast niches.

How engineers, musicians, operators, and facilities bosses find out about the latest sound equipment and technology has been much the same since the 1950s, when large-scale production began and slowly developed into what we recognise today as the professional audio industry.

A marketing structure sprung up soon afterwards to support and promote this; magazines to let everyone know about new products and exhibitions where they could be seen. That model served everyone well for decades, but in the last ten to 15 years magazine publishers have faced growing competition from the Internet and manufacturers producing their own promotional publications; and while there are exhibitions that are still fixed points in the calendar – NAB and IBC being prime examples – some events have either disappeared or are now shadows of their former selves.

AES Europe

The European AES Convention is a good example of an exhibition that has faded. This month it returns to London after a 23-year gap. That 1987 show was generally considered an organisational failure, with the Queen Elizabeth II Conference Centre an unsuitable venue. The 2010 version might not live up to some expectations either. It is being held at the Novotel Hotel in Hammersmith, West London, and at press time had 70 confirmed exhibiting brands.

A major blow in the run-up to the show was studio equipment distributor KMR Audio pulling out. The company was to have represented 18 manufacturers on a large stand, but Managing Director Keith Malin says he was 'shocked' when he saw the exhibitors list and realised that the event was being held in a hotel.

"The AES hadn't been held in London for a very long time, so we and the manufacturers we represent were very excited about it," Malin comments. "I didn't recognise the names of 80 percent of the other companies exhibiting, and with the size of the venue we thought what we were being charged was a large amount of money. I said I would pay 'X', but the organisers said 'no', so I pulled out."

Malin feels the European AES is 'an afterthought' taking second place to the successful US show. In last month's Audio Media the AES's Executive Director, Roger Furness, defended the European exhibition, saying that although smaller than in the past it "still fulfils a very important and necessary function".

Malin criticises the lateness of publication of the exhibitor list and minimal amount of marketing and promotion. Furness put this down partly to budget, but also wanting to talk about what will be happening, rather than what might happen. This seems at odds with today's marketing-driven business attitudes, especially as a great many audio companies are looking at how new media can be used to promote their services and products.

Trade shows offer the chance to get face to fader with a piece of kit – especially as mixing consoles, digital audio workstations, and associated processing gear for higher end post and broadcasting do not come cheap. Trade shows have offered the opportunity to do this, allowing people to try out all the new toys at the same time.

EU Broadcast Shows

As AES London illustrates, audio shows have been the most vulnerable in the technology sector. The APRS Show, once the key event for recording engineers, producers, and anyone with an aural bent, hit a peak during the mid-1990s and then declined rapidly until its eventual cancellation. Last year, both the SBES (Sound Broadcast Equipment Show) in the UK and the NAB European Radio Conference, which was to be held in Athens, fell victim to a combination of their niche natures and the global recession.

One conclusion was that the broadcast manufacturing sector was suffering due to broadcasters cutting back. The BBC refurbishing existing facilities and the building of new centres like MediaCityUK in Salford and Sky's Harlequin 1 are evidence to the contrary.

Distributor and manufacturer Canford was once a staunch supporter of SBES but decided to attend the event on a rotation basis. "People spend more in a recession to get the message out there," explains Iain Elliott, Canford's co-founder and Director of Strategy. "When we restructured the company we didn't touch the number of staff in the marketing department or its budget."

Canford and other SBES regulars have found a new home at BVE, which took place in London during February. This has grown from being just a show for TV producers to being a more general event. BVE organiser VCM Events called a meeting with SBES exhibitors after the news about the show broke to see what they wanted from an exhibition. "They said the audio industry in the UK was very important but it's not just about radio or TV sound but the whole thing, including music production," comments Event Director Kieron Seth. "So audio was integrated within the entire show."

Calrec Audio now exhibits at BVE because, says Business Development Manager Henry Goodman, people need to get physically in front of a mixing desk and see how it operates. "People have a very tactile approach to kit – they want to get hands on because they are excited about what the technology enables them to do," he explains.

Alternative Carriers

Calrec ships demo consoles to its customers and ▸

has open-house sessions so operators can get a feel for products. But Goodman says trade shows are still valuable because the interaction is the other way round, with the customer coming to the manufacturer. "What has changed in the last few years is the manner in which manufacturers educate the market about new features and products," he says. "Traditional forms of communication are still valid but there are new ways of reaching the market, such as social media, and these continue to evolve."

Dan Duffell, Marketing Manager at SSL, comments that with the various routes open to companies to reach customers – from Internet forums to Facebook, MySpace, and Twitter – companies can approach different markets and territories in different ways to achieve effective results.

A couple of years ago there was some bemusement when SSL released a viral video commercial on the Internet featuring one of its sales team dressed as a pirate. Duffell says this attracted a large and loyal user base in the project studio sector, which responded to the style. "Companies like SSL work in multiple markets," he explains, "and while more marketing might be done like the pirate ad in the future, we still approach our other areas, like broadcasting, in a more traditional way."

A company that is using social networking to extend its reach is audio test and measurement and recording processor/interface manufacturer Prism Sound. Sales and Marketing Manager Jody Thorne says that in the last few years, after buying DAW company SADiE, Prism has moved from being purely engineering led to having more of a marketing bent. Part of this, he says, was the realisation that today companies are not dealing with faceless institutions like broadcasters and facilities but individuals, both within big concerns and those who operate independently.

"There are post and radio engineers working on their own out there and we need to reach them," says Thorne. "I wouldn't put our T&M products on Facebook because there's a more creative community that uses it, who like the interaction and recommendation approach."

Prism uses Facebook, Twitter, and MySpace to publicise open days and training sessions, where people are able to see, use, and discuss the latest products. These are not held in isolation but with other companies, including Apple, Focusrite, and Steinberg. This is because, says Thorne, products are integrated into overall systems and have to be seen working together.

IBC Special

Trade shows are still part of this – Thorne comments that Prism is attending more than ever – but they are now just one of many ways to get hands-on experience of the latest products. The International Broadcasting Convention (IBC) is a hugely successful show, growing from its roots in London hotels to take over most of Brighton before moving to Amsterdam in the early 1990s, where it has continued to grow.

In recent years some major exhibitors have broken ranks; Avid has chosen not to attend on a number of occasions, instead staging road shows, while last year's IBC took place without the usually dominating presence of Sony. IBC's Chief Executive, Mike Crimp, says that the scale of the show makes it a 'special case', but acknowledges that he and the organisers cannot be complacent and assume people will come just because it is the IBC.

"We've got the offer of extra value," Crimp comments. "Our audio coverage takes in all areas, radio and general broadcast as well as sound recording. There is an economy of scale for people coming to IBC." Crimp sees social networking and other forms of new media marketing as complementing exhibitions, but does not foresee virtual shows taking the place of something like IBC. "This business is about relationships and at an exhibition I can meet you, shake your hand, and buy you a beer. You can't do that online but these new methods are useful for research."

Long Live The Show

KMR Audio is not using online marketing, and while the company rarely takes space at exhibitions, Keith Malin does feel the UK recording business needs an event where the users, rather than the trade itself, can see and hear the latest technology. "A studio with a big live room where manufacturers can stand in front of their equipment and demonstrate it would be the way to go," he says.

Malin and other company bosses are discussing the possibility of setting up a show for the recording sector. While this is very much in the discussion phase Malin says, "It will be done – I'll make sure it is."

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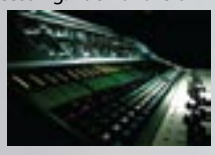
consoles

It's been over a year since Audio Media last looked at the consoles available for broadcast, studio, and live work. So here is a choice selection of the best currently available in the field.

The iLive Digital mixing system from **Allen + Heath** reduces the need for outboard equipment racks as it provides comprehensive on-board signal and FX processing. Each of the 64 input channels has a gate, parametric EQ, compressor, limiter/de-esser, and delay, while all 32 mix outputs have a 1/3 octave graphic EQ, parametric EQ, compressor limiter, and delay. Complete set-ups can be stored in the console and saved to a USB key; and all parameters can be saved, updated, and recalled.



www.allen-heath.co.uk

The Vision surround sound mixing and recording console is manufactured by **API**, that claims it is the only analogue console ever designed from the ground up for surround work. The desk features re-settable switch automation and re-settable bus assign, both assignable per channel or globally. It also has a dedicated 5.1 mix bus, simultaneous surround and stereo mixing, and an all-discrete signal path. Each channel offers dual input and five-channel surround panning on each fader. The console has eight multi-channel playback selectors.

www.apiaudio.com

VENUE D-Show is a live sound console from **Avid**, developed with mix engineers in touring sound, theatre, houses of worship, and fixed installations. The VENUE D-Show System offers plenty of options to accommodate large ensembles, and Avid suggests that it is ideal for concert tours, festivals, mega churches, and other mid- to large-size venues. The system comes with a D-Show main console and one D-Show sidecar, which together provide a total of 24 input faders, eight output faders, and eight rotary output encoders.

www.avid.com

Allen + Heath's XB-14 broadcast console is designed for a broad range of applications from small radio or Internet broadcast studios, to community radio and larger studios with multiple rooms. It features Telco inputs for telephone callers, mic faders start sensing for external connection and internal automatic muting of the speaker outputs, stereo channel start/cue outputs for CD deck transport control, multiple headphone outputs, and an additional Mix B stereo bus. The XB-14 also has USB connectivity for interfacing with PC and Mac.

www.allen-heath.co.uk

Audient's Zen is a compact studio console, with separate inputs providing the mic, line, and DAW return paths. The high resolution signal path is based on the design of the ASP8024. Zen features Audient's newly developed fader automation, which integrates with DAW software to provide fully-featured automation of moving faders, mutes, and transport control. The Master section offers comprehensive monitoring of five sources plus the main stereo mix through either the main speakers, two alternative speakers, or headphones.

www.audient.com

The Apollo console from **Calrec** uses Bluefin2 high density signal processing, which at 48kHz gives Apollo 1020 channel processing paths, 128 programme busses, 96 IFB/track outputs, and 48 auxiliaries. There is a second dynamics section in each channel, and all the processing, including power supplies and all I/O routing, is contained in an 8U rack. The control surface features OLED displays and touch screens, and has light emitting knobs which change colour depending on function for immediate recognition.

www.calrec.com

The modular Genysys is hand-built in the UK by **AMS Neve**, and can expand up to a 64-fader, 128-input system. The controls have soft switches, allowing the set up to be customised and letting users save and instantaneously reset every routing decision and switch setting. Neve analogue EQ and dynamics cassettes can also be added, and other options include Encore fader automation, Total Recall, transformers on mic pre-amps, digital control of EQ, VCA-style digital control of dynamics, and Neve A/D/A converters.

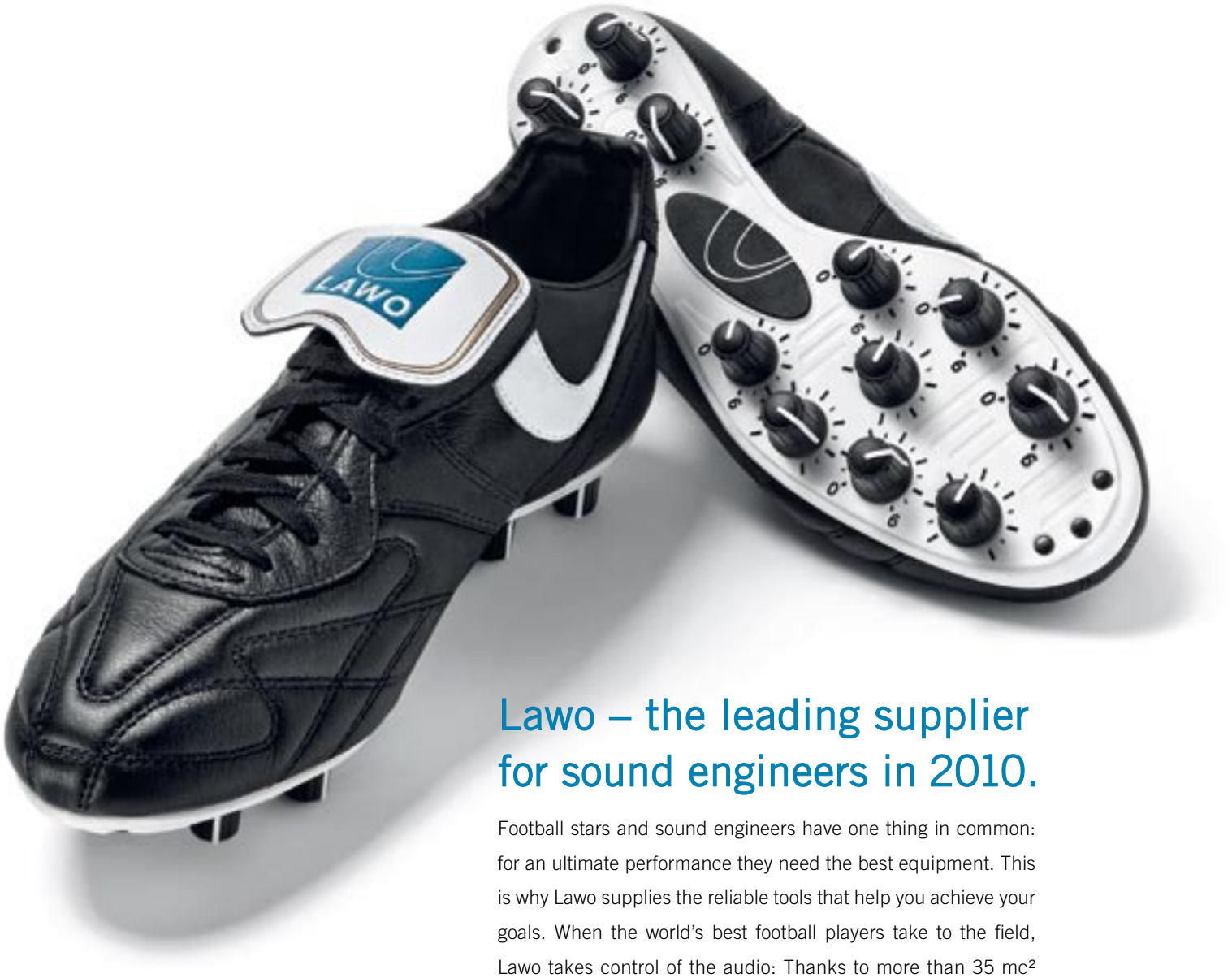
www.ams-neve.com

The ICON D-Command ES by **Avid** is a compact digital console that offers deep Pro Tools control, suitable for small to mid-size studios. The desk features dedicated centre section panels for editing EQ and dynamics plug-in settings, which Avid says allows users to fine-tune their mix without ever having to leave the monitoring 'sweet spot'. It has eight physical faders/channel strips in base configuration, but this is expandable to 40 faders/channels with the optional 16-channel D-Command ES Fader Module.

www.avid.com

Calrec's Artemis console is based on the Apollo platform, and utilises the same core technologies. The Bluefin2 high density signal processing platform provides Artemis with up to 680 channel processing paths, 128 programme busses, 64 IFB/track outputs, and 32 auxiliaries. The desk also features a second compressor/limiter in each channel, more than 70 minutes of assignable delay, and three independent APFL systems for multiple operator use. Full automatic hot-swap redundancy is part of the system architecture.

www.calrec.com



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The new **DiGiCo** SD9 console is a compact mixing system based on the same Stealth Digital Processing and Super FPGA technology that powers the SD7. It has a moving fader work surface and a large full colour TFT LCD touch screen, and has an accompanying D-Rack which means the SD9 is a complete integrated system including mixing work surface, digital stage interface, and CAT5E digital multi-core. Users can simultaneously record 56 channels direct to multi-track software or a DAW, and then recall those tracks using the Snapshot facilities.

www.digico.biz

The MPC4-D film console from **Harrison** is the latest incarnation of the MPC series. It features seven dual-concentric knobs per channel and uses a new extruded aluminium frame with TFT waveform displays over every channel. The surface is highly configurable, with an unlimited frame width to accommodate an unlimited number of faders. DSP power is provided by Harrison's Xrange DSP system. Hundreds of channels are available along with Harrison's Film Monitoring system and multi-operator IKIS Automation platform.

www.harrisonconsoles.com

The Ramses MSC is the result of an alliance between **Merging Technologies** and Smart AV. Manufactured by Smart AV but branded by Merging Technologies, Ramses MSC comprises a range of small, medium, and large multi-format control surfaces. All products in the range employ Merging's real-time MassCore mix engine technology, and are scalable from 16 to 256 simultaneous input and output channels, with a 256 user-configurable bus structure. The console has touch sensitive moving faders and touch dual concentric encoders.

www.merging.com

The S5 Fusion from **Euphonix** is derived from the System 5 series. The console is a fusion of the new Euphonix processing DSP with EuCon Hybrid, which allows the console surface to control its own DSP channels as well as channels from multiple external DAWs simultaneously. The expandable SC264D system computer provides DSP channels each with EQ and dynamics processing, delay, and surround panning to multi-format mix, group, and aux busses. The system can be run at 48kHz and 96kHz.

www.euphonix.com

Innovason claims the Eclipse is the world's first digital console to offer fully integrated multi-track recording, which is done via its M.A.R.S Multi-track Audio Recording System. A flexible and multi-purpose console, the Eclipse is equipped with a DSP engine which enables users to mix up to 104 inputs simultaneously on 48 mix busses, among the 320 inputs and outputs that are available both on the console and via the audio racks. The control surface is furnished with 48 faders and 48 fully configurable rotary knobs.

www.innovason.com

The Pro6 Live Audio System is the second networked digital audio system from **Midas**. The console can provide up to 80 simultaneous input processing channels and up to 32 discrete mixes in monitor mode, all of which feature EQ and a choice of dynamics processing options. By adding additional I/O hardware the PRO6's network can be expanded up to 264 inputs and 264 outputs. These connections can be patched and routed on a scene-by-scene basis, using snapshot automation.

www.midasconsoles.com

System 5-B is a digital broadcast mixing system from **Euphonix**. Specifically configured for live and live-to-tape production with dual redundant power supplies and redundant DSP SuperCore, it is also available as the System 5-BP, which has all the redundant features of the System 5-B but with dynamic mix automation and machine control, so it is able to handle applications where both on-air and audio post production is required from a single system. The console can also double up to perform audio post tasks.

www.euphonix.com

The **Lawo** mc²90 is a modular top-level console, with a flexible desk surface which adapts to individual workflow. All the mc² consoles are based on Lawo's HD core technology, which offers 96kHz and more than 8,000 crosspoints, more than 500 DSP channels, Dolby E compatibility, and integrated signal processing. The console has decentralised central controls, allowing the user to copy centre section controls to any other area of the console, at any time. Colour coding of individual functions is achieved using LED technology.

www.lawo.de

The XL8 from **Midas** is an open-architecture, cross-platform live performance system. Each of the five bays of the console is a discrete hardware module, which is independent of its neighbour and incorporates its own power supply, surface processor, GUI processor, and screen. A single Ethernet link to the network provides a common connection. The control centre features dedicated motor faders on outputs, a modular control surface with multiple input areas, and two routers in addition to the two DL461 Audio System Signal Routers.

www.midasconsoles.com

Fairlight's EVO is a fully self-contained audio production system for video, film, and music, offering high track count with FPGA-based hardware for mixing and processing, built-in video, and seamless workflows for virtually all SD and HD file formats. The mixing surface is designed around Fairlight's self-labelling Xynergi keys. The built-in monitoring section is capable of simultaneous fully automated mixes in multiple formats. The fader panels use colour OLED screens to display enhanced automation feedback.

www.fairlightau.com

The TT24 Digital Live Console from **Mackie** is firmly aimed at those who love analogue mixing but want the benefits of digital technology. The TT24 is a mid-sized console that offers full automation and recall of levels, EQ, effects, and routing. The rear panel has standard analogue and digital I/O installed, giving users a choice of mic channels and outputs for use in live situations. All 24 mic inputs have four-band EQ, comp/limiter, and gate available, and the eight line inputs also have four-band EQ.

www.mackie.com

The **PreSonus** StudioLive 16.4.2 is recommended for small club systems, portable churches, small bands, corporate applications, educational institutions, and anywhere a rack-mount mixer would be useful. Two can be daisy-chained together to form a 32x4x2 performance and recording console for mid-sized shows and events. It features high-headroom XMAX microphone preamplifiers, a built-in FireWire recording and playback interface, more than 90 signal processors, a DSP effects library, six aux busses, four subgroups, and extensive LED metering.

www.presonus.com

The M-400 V Mixer from **RSS by Roland** is a complete digital mixing system that incorporates a digital snake and mixing console. The M-400 is a 48-channel mixing console with 16 busses, channel and bus DSP, four stereo FX processors, four graphic EQs, built-in stereo recording and playback, and a built-in multi-channel split port. All console functions have dedicated knobs and buttons, and it features 24 touch-sensitive moving faders, a TFT LCD display, and Cat5e connectivity.

www.rolandsg.co.uk

The **Sonifex** S1 is a new compact, low cost, fixed format mixing console designed for on-air radio use. It has ten input channels (five mono, five stereo) with a variety of fixed source options. Core features include analogue and digital I/O, two Aux out busses, Fader Start, separate telco and stereo clean-feed outputs, and more.

www.sonifex.co.uk

SSL's Duality console is available in 24, 48, 72, and 96 fader configurations, expandable in bays of 24 – up to 96 – and with producer and patch options. It offers complete 5.1 surround support, with a full range of monitor calibration and setup options for surround productions, and comprehensive DAW workstation control. Channel TFT screens deliver constant visual feedback of the status, processing, and routing of channels. The console uses channel Autoscan to offer multi-operator total recall; and provides flexible routing and processing with split signal flow architecture.

www.solid-state-logic.com

Rupert Neve Designs' 5088 fully discrete analogue mixer is an expandable 16-channel line mixer that provides eight group busses, eight auxiliary sends, and four stereo effects returns. The channel strip is designed to handle complex mixes and multiple normalled sources; creating master, group, and aux mixes efficiently. Because the 5088 is completely modular, channel strips and Portico processing modules such as EQ, mic pre-amp, and compression can be substituted to meet changing demands.

www.rupertneve.com

In response to requests for a smaller, lower-priced console, **Soundcraft** has launched the Vi1. It's a standalone console with the new widescreen Vistonics interface, 32 channels of analogue input to 27 analogue outputs, plus six digital I/O, and four Stereo returns. Standard input to mix capacity is 46 channels, increasing to 64 with an additional stagebox. Channels are routable to 24 multi-function busses, plus LR and Mono Mix busses. Up to eight of the busses can be configured as Matrix mixes, each with up to 16 sources.

www.soundcraft.com

The Aurus from **StageTec** is a fully digital audio mixing console system consisting of a main console and separate audio processing rack, the Nexus Star. Its low console weight, compact audio processor, low power consumption, and low heat dissipation gear biases its application towards live use and OB vans, but it is available incorporating generic software functions for broadcasting, sound reinforcement, theatres, and recording. The console features space saving dual encoders facilitating direct access to all key parameters. Up to 96 channel strips and 300 audio channels are available.

www.stagetec.com

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The **Studer** Vista 8 digital live production console follows on from the Vista 7, and similarly incorporates the Vistonics user interface. It combines and extends the broadcast features and dynamic automation of the Vista 7 to offer a flexible multi-purpose live broadcast desk. The control bay design puts more faders into a smaller footprint, making it ideal for both fixed installation broadcast and OB van applications. The snapshot system and dedicated mute groups mean it can be used in live fixed installations such as concert halls and theatres.

www.studer.ch

TL Audio's Valve Technology Console is a fully modular in-line multi-track mixer. The company's valve circuitry forms an integral part of the VTC's channel, monitor, group, and master section signal paths. Every channel and Mix B pre-amp incorporates an ECC83/12AX7A valve stage, as do the group, Mix B, and stereo mix amplifiers. Each valve stage in the VTC is run from a 250v DC stabilised power source. The console is available in configurations from 16 channels to 56 channels, with an optional bar graph meterbridge.

www.tlaudio.co.uk

Yamaha's MC7L medium-sized digital live-sound console builds upon the digital advances of the PM1DV2 and PM5D consoles, and includes concepts such as the Centralogic control interface which aims to deliver the intuitive feel of analogue mixing to a digital console. This feature allows central control of assignable blocks of eight channels. The Version 3 software update offers sends on Fader functionality, which gives the ability to make remote console independent adjustments; additional recall safe parameters; and VCM effects as standard.

www.yamahacommercialaudio.com

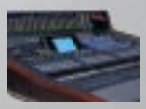
Tascam's DM-4800 is a 64-channel digital mixing console with a remote layer that provides 24-fader control of leading DAWs. A 'fat channel' strip in the centre of the board provides access to the four-band parametric EQ, dynamics, and aux controls available for the first 48 channels. The IF-FW/DM MkII interface provides 32-channel, 96kHz Firewire I/O, while the optional surround monitoring card provides downmixing, bass management, and level control for mixing up to 6.1 surround sound.

www.tascam.com

The **Toft Audio** ATB Series small format console is now onto Revision 3.0. The recent upgrade includes, fully balanced I/O, supported pots, a new reinforced frame, meter bridge connections, and a meter bridge switch for direct outs or line ins. Also, the preamp has been updated and faders changed to Bourne's faders. The updates further increase reliability and stability of the console. Also, a new eight-channel verison of the console, the ATB-08, is now shipping.

www.toftaudio.com

Yamaha's DM2000VCM was the first digital audio production console to receive THX pm3 surround standard approval. Yamaha says that the console combines many surround mixing and monitoring functions with a maximum of 96 inputs and 22 mixing busses; transparent sound quality; 24-bit AD/DA; 96kHz sampling; and efficient integration with DAW packages. The DM2000VCM also comes with VCM plug-ins including EQ, compressors, tape saturation, guitar effects, and the REV-X reverb algorithm. The console also features iSSP surround field technology.



www.yamahacommercialaudio.com

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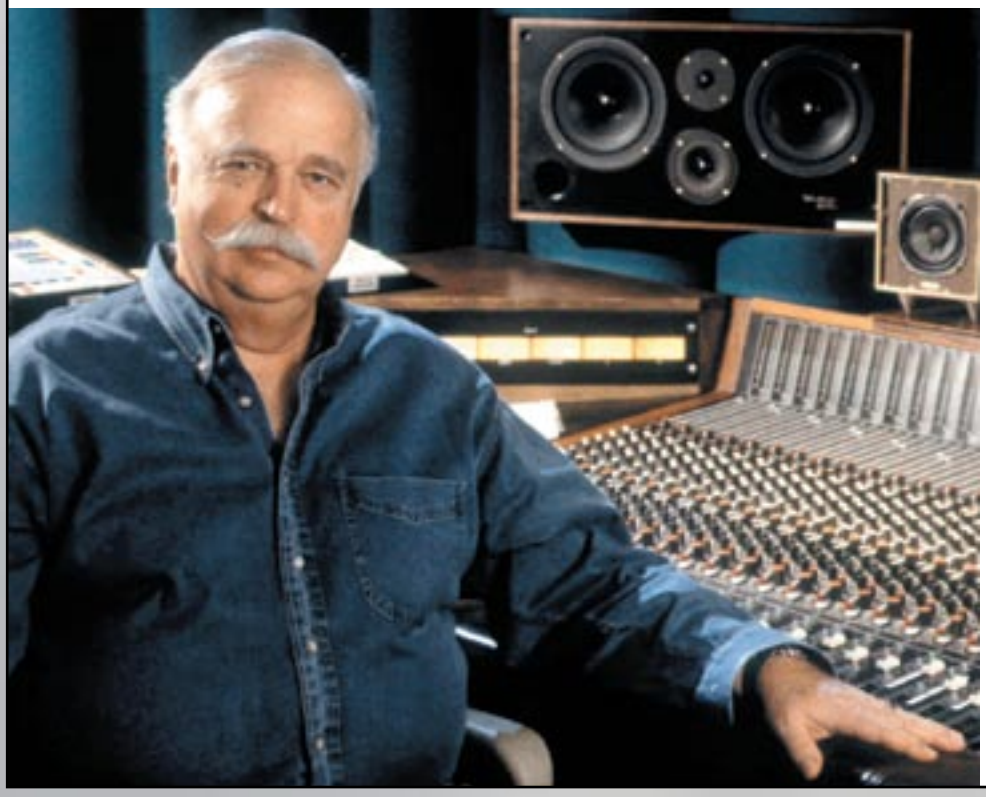
Bruce Swedien - Engineer/Producer, West Viking Studios, Ocala, Florida

For the last 15 years, Bruce has been mixing on his AttackWall and voicing his mics in the Quick Sound Field.



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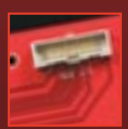
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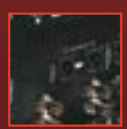
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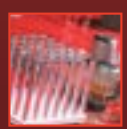
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A Sound Pro's Guide To Video

Colour Grading Part 4

KEVIN HILTON continues the story of colour grading with a look at the evolution of the telecine machine.

The story of the telecine machine has been one of a clever concept presented in a basic, mechanical way that has over the years been enhanced and improved through electronics and now digital technology. This progression has moved the TK from laboratories or the machine rooms of facilities houses into the post-production suites where the important business of colour correction and enhancement is carried out.

Overcoming Imperfection

From the earliest telecines onwards developers have strived to overcome the imperfect process of passing film through a gate to record the images as electrical impulses on videotape. To minimise the picture and quality degradation caused by this procedure, machines were designed with image stabilisation systems and other processors to help produce the best possible images.

> "...machines were designed with image stabilisation systems and other processors to help produce the best possible images."

These are intended to improve the synchronisation of the moving film and the corresponding video signal recording. For this to work correctly the right frame on the film passing through the mechanical gate on the telecine has to be in focus and in the correct position on the lens to be exposed and captured electronically by the video recorder.

If the mechanisms of the film transport and video unit are in good working order and the film is being recorded at the same frame rate as the sampling rate of the video camera this is not a problem. Difficulties arise when the rates are different, as is generally the case when film is being transferred to any of the analogue television colour processing formants. To ensure a successful transfer extra frames a second have to be added to the video recording.

This frame rate conversion process is known as a pulldown, derived from the pull-down mechanism of moving sprocketed film through a camera. The type of pulldown used depends primarily on the scanning frequency and frame rate of the video scheme to which the film is being transferred, although the speed of the film can have an influence if it is a silent or unusual stock. Generally feature films are shot at 24 frames per second (fps); PAL or SECAM telecines use a 2:2 pulldown, while a 2:3 (also known as 3:2) pulldown is used for NTSC.

PAL/SECAM scans 25 complete pictures every second, with a field frequency of 50Hz. This means that the 24fps film pictures have to be converted to match the 25fps broadcast. The images are photographed at 25fps, meaning that for each film frame scanned a video frame is recorded. The slight change in play-back speed is not usually noticeable as far as the picture is concerned but can increase the pitch of the sound, which can be dealt with using a pitch shifter.

More Involvement

A more involved method for converting 24fps film to 25fps video without incurring an increase in play-back speed is to spread 24 frames of film over 50 PAL fields. This involves a pulldown field every 12 frames, distributing 12 frames of film over 25 fields, making it effectively a 2:2:2:2:2:2:2:2:2:2:2:3 pulldown.

If this sounds mind-mangling enough it is even more complicated in the US with the NTSC system. NTSC pictures contain 525 horizontal lines scanned at 29.97fps, with a vertical scanning frequency of 60Hz. As with PAL, which operates at 625 lines, an electron gun scans odd numbered lines first, then even numbered lines. Each scan of both sets makes a field, with a full frame being scanned every 1/30th of a second, making for 29.97fps.

To convert successfully between 24fps and 29.97fps 12 fields are added to the 24 frames of film to compensate for the six frame discrepancy. The 2:3 ratio is achieved by the first frame of film being represented by two fields of video, the second by three fields of video, the third by two, and the fourth by three. This process continues until a full image is achieved at the desired frame rate.

Errors And Problems

Because of the amount of processing and calculation involved in a 2:3 pulldown, it is perhaps inevitable that small errors can creep into the video copy. This was particularly noticeable on NTSC VHS versions of films, when originally slow, smooth camera moves took on an erratic, slightly stuttering appearance. This is known as telecine judder, which can be eliminated in modern DVD players and personal video recorders through a process called reverse telecine (also known as inverse telecine or reverse pulldown). The 2:3 pulldown is effectively removed and the 24fps of the original film restored, producing a non-interlaced picture.

Reverse telecine has even more of a part to play in professional video, as the editing decision lists (EDLs) used with non-linear editing systems are based on the exact frames of the original film. Because there might be big differences between the two fields that comprise a reconstructed frame, merely shifting fields from one frame to another is not always the best way to recreate the source picture.

The basis of reverse telecine is field matching, in which pairs of fields that make the best combination are brought together. This avoids a great deal of processing and is fairly straightforward for frames featuring no or little movement. A great deal of motion can affect the edges of objects in an image, making them change from one field to another.

An approximation of the source 24fps film is achieved when all fields have been matched, with frames inserted from duplicate fields if necessary. After this has been done frames that have extra fields are more likely to appear in a standard pattern. These can then be eliminated from the video, a process known as decimation. Even after decimation the frames are not in a progressive form but instead are made up of pairs of interlaced field. These might not line up well and are recognised by the encoder as two separate pictures from two different moments in time. This situation has to be corrected, with

GLOSSARY

Wet gate

A way of printing film in which the negative is run through a trough containing a solution prior to being exposed. This is done to fill any scratches or other damage on both sides of the film so that light refraction will not print the faults on to the new stock. A similar method is liquid gate printing, in which the film is passed through fluid in a glass cell during the exposure process itself.

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Newnes Guide to Television & Video Technology, by KF Ibrahim, 2007, Newnes

The Legend Continues

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Colour Grading: Part 4

all the different fields merged to create a single picture.

Manufacturers have improved the performance of their telecine machines over the years but there has still been room for improvement. In 1978 Rank Cintel introduced a remote control programming system for its Mk III telecine. TOPSY (Telecine Operations Programming sYstem) was the first device of its kind for a telecine and opened the way for developers to produce stand-alone devices to work with TK machines.

Enhancements and add-ons for telecines have appeared regularly since then; during the early 1990s a company was founded in the UK to develop devices to improve the performance of Cintel products in terms of photo sensors, flying spot sensitivity, and noise reduction.

Innovating Innovation

Innovation TK (ITK) was set up by former Cintel Design Engineer Stuart Hunt, who started in his new venture re-engineering the analogue-to-digital converters on the Ursa telecine to produce a device called TWiGi. The A-Ds are used to prepare analogue telecine output for the digital domain and Hunt set out to increase their efficiency. TWiGi also removes noise, drift, and artifacts, and compensates for tube burn.

ITK's other bolt-on products were SCAN'dAL, which elongates the size of the light spot on the Ursa Diamond is so that it retains its dynamic shape, even though spot size has decreased to improve sharpness, and Y-Front, designed to solve inefficiencies in cell box design by directing light to a new set of photo sensors by means of a simplified wider angle lens system.

In designing his ITK range Hunt took existing telecine engineering as the foundation but then began with a clean sheet to create something new. Another spur for his work, he said during the late 1990s, was his horror at seeing a wet gate (see glossary) being used to repair faults on film so they would not be transferred to the video recording.

In expanding the ITK product line Hunt always said he would not move into designing colour correction equipment. The colour corrector is the most obvious add-on for the telecine, giving the colourist greater control over manipulating and changing colours to create mood and character within a scene.

All About Colour

Colour correctors have three main functions: primary correction, secondary correction, and special effects. Primary colour correction controls the overall colour balance in the whole picture, plus white level, black level, and gamma, which relates to the hardness or softness of an image in the mid-tones. Secondary colour correction allows the colourist to concentrate on a particular colour and change the saturation, hue, or luminance.

Today colourists are able to perform secondary correction by using a cursor to draw round the desired portion of the image, known as a vector, which isolates it from the rest of the scene and so allows the colour to be changed. At one time there were only six fixed vectors: red, green, blue, yellow, cyan, and magenta. Modern colour correctors allow any colour to be selected, with improved separation from others in the scene.

Special effects depend on the type and power of the correction system being used. Among the more basic options that would be found on a typical workstation are controls to alter the luminance, turn positives into negatives, or to create gamma curves to suite individual requirements and taste.

Next month's Video Guide will look at the appearance of dedicated colour control equipment, including the first systems from the two pioneers in the field, da Vinci and Pandora.

SPOT THE DIFFERENCE
The picture on the right shows the Holophone H3D 5.1 surround sound microphone. Equipped with 5 DPA capsules it is now available for hire from Richmond Film Services for £40 a day. The picture on the left shows a toy dinosaur.*
For more information on the Holophone microphone call us on 020 8940 6077, or you can visit our website at www.richmondfilmservices.co.uk.
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news

The latest version of da Vinci's Resolve colour corrector was launched during NAB 2010, with the company's new owner, Blackmagic Design, reinventing the system in a bid to bring high end correction to a broader market. Version 7.0 now runs on the Apple Mac OS X platform and has an improved user interface, enhanced video field support, a new EDL library, and upgraded shared database support.

Blackmagic Design bought da Vinci last year and has now produced three new Resolve models, with a starting price of US$995. This is a huge drop from the price tag on previous systems, which ranged from US$200,000 to more than US$800,000.

The new da Vinci Resolve range comprises a Mac-based, software only version; a Mac workstation including the Resolve control surface; and a top of the range Linux version, which has the capacity to support multiple systems working with GPU supercomputers.

The da Vinci Resolve on Mac is intended for SD and HD work and is able to cope with 2K projects. Functions include: correction, image rotation, re-framing, blurs, and trackers. GPU cards will be released on a regular basis and these can be added for extra power. A control panel, such as the Tangent Wave, and a single CUDA capable GPU card have to be added to complete the system.

The midrange Resolve, priced at US$29,995, offers Mac DaVinci Resolve software and the da Vinci Resolve control surface. This system is designed for HD, 2K, and 4K projects, with capability for 3D.

"We think this new da Vinci product line-up will make it easy for beginners to get started with a professional product, as well as allow high end facilities to install the seriously powerful systems they need for feature film work without breaking the bank," said Grant Petty, chief executive of Blackmagic Design. "Ever since I started in post production as a teenager, I have just loved colour correction and film. For me this is a dream come true letting da Vinci become affordable for everyone, and it's very exciting."

Facilities with existing da Vinci Resolve or Splice system systems will qualify for a free upgrade to the 7.0 software.

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Next time you're glumly shuffling your way out of the Tube, think how much more fun it would be if the ground beneath your feet was a musical instrument. If you go to Milan, that dream can come true. LiveMi, an initiative aimed at re-launching Italian emergent music, under the artistic direction of Italian music television personality Red Ronnie and supported by the Municipality of Milan and Milan's public transportation company, has installed a real piano keyboard on the stairs leading out of the subway station of Piazza Duomo.

Passengers going up and down the stairs of the subway station can press the keys of a giant piano made up by the steps of the staircase, each of which is associated to one or two musical notes. The staircase is powered by two Proel HPD3000 amplifiers, running at full operation 24 hours a day.

The staircase was supposed to be a temporary installation just for Christmas, but has been such a success that it has been extended. The installation was inspired by a similar project launched in September 2009 in Stockholm's Metro, with the aim of encouraging people to exercise more by using the stairs rather than the escalator. The Stockholm project saw a 60% increase in people using the stairs.

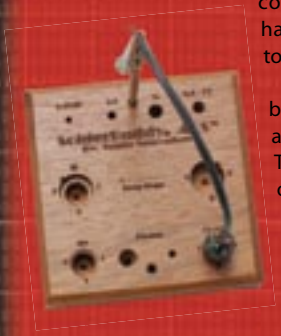
www.pianostair.com

hot/STUFF

Is DIY cabling a dying craft? Probably not. No matter how many cables you have, there's always one you haven't got; and inevitably you discover this right at the moment you need to use it. And many people prefer to build their own looms, or cable stocks for specific needs, and so on.

The act of soldering a connector is fiddly and often done in less than ideal circumstances. The connectors themselves just won't stay still, and the cable needs holding in one place. So: cable, connector, soldering iron,and solder... That's four hands.

The answer may lie in the SolderBuddy ACS (Audio Connector Soldering). Designed and made by Lee Tingler – a part-time actor, part-time technical college lecturer, and audio industry veteran – the ACS is a solid, nicely finished hardwood block, with a some very useful holes and legending on it. A couple of the holes are there for the supplied post/clip (a crocodile clip on a metal post), and an optional post/clip or the Mag-3 (a magnifying glass on a gooseneck post). The other holes are there to hold connectors steady. Neutrik and Switchcraft XLR; mini-XLR; quarter-inch, mini, and sub-mini phone plugs; phono (RCA), and two types of coaxial power connectors are catered for, and the XLRs have pin numbers on the ACS legending, so you don't have to keep checking.



To those non-solderers amongst us, this may seem like a trivial block of wood, but to those of us fed up with chasing a connector around a desk because we can't find any Blu-Tak, it's a revelation. The only thing it doesn't do is remind you to put the strain-relief on the cable before you start soldering...

The other thing you might find useful is Tingler's self published booklet *The Artful Solderer*. Full of great tips, tricks, and facts for both the novice nib-monkey and the experienced loom-merchant, this quality, ring-bound tome stands up just like a desk calendar for easy reference.

A final tip – SolderBuddy doesn't have European distribution at present (though is happy to entertain offers), but will ship to Europe at a small extra charge. All the information is on the webste.

www.solderbuddy.com

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